RECREATION AND ECONOMIC OPPORTUNITIES ASSESSMENT FOR THE SALTON SEA, CALIFORNIA

DRAFT REPORT

AUGUST 12, 2005

Submitted by:
The Salton Sea Authority

Prepared for:
The State of California
Department of Water Resources

RECREATION AND ECONOMIC OPPORTUNITIES ASSESSMENT FOR THE SALTON SEA, CALIFORNIA

DRAFT REPORT
AUGUST 12, 2005

Submitted by:
The Salton Sea Authority

Prepared for:
The State of California
Department of Water Resources

EXECUTIVE SUMMARY

INTRODUCTION

The Salton Sea Authority [Authority] has been tasked to conduct an opportunities assessment of recreation and local economic opportunities that could be implemented as part of an ecosystem restoration program at the Salton Sea. This assessment will focus on recreation and local economic opportunities associated with alternatives that will be considered in the Programmatic Environmental Impact Report [PEIR] for ecosystem restoration that is currently under preparation by the California Department of Water Resources [DWR]. Three factors have consistently been identified as the critical for future economic development:

- Improvement of water quality, including control and reduction of salinity;
- Stabilization of the water surface elevation; and
- Reduction of odors.

These factors have been assumed to be part of any restoration program for the Salton Sea. Numerous recreational facilities and opportunities for recreation and economic development currently exist around the Sea. The Authority was tasked to develop a prioritized list of specific recreational activities, user areas, facilities, services, and other amenities, consistent with the ecosystem management focus of the program, that address protection and possible enhancement of recreation values surrounding the Salton Sea.

In February 2004, the Authority appointed an Outdoor Recreation Advisory Task Force [ORATF] to evaluate the recreational potential of a restored Salton Sea and present recommendations to the Salton Sea Authority Board. A Recreation Opportunities Survey was developed and distributed to ORATF members, mailing lists of stakeholders through the Authority and the DWR, and to the general public. Two public meetings were held on Thursday, April 28, 2005, to solicit comments from the general public and stakeholders on the Recreation Opportunities Survey. The results of the feedback received determined the overall list of recreation activities and facilities considered. Based upon the survey responses, an analysis of each activity was conducted to establish key issues and to evaluate strategies for implementation.

SURVEY METHODOLOGY

The purpose of the survey is to formally develop recommendations regarding recreation opportunities associated with an ecosystem restoration program. The survey asked respondents to identify and prioritize recreation activities that they recommended to be implemented or expanded at the Salton Sea, the types of facilities that would be required to support those activities, and the general area of the Salton Sea where these opportunities could be implemented. Nine (9) recreation areas were identified: boating; camping; fishing; off-highway vehicle [OHV]; resort; trail-related; wildlife-related; water contact; and other. Including sub-activities, the survey resulted in a list of 20 activities to be evaluated. The activities evaluated in the survey are listed below:

- Boating: Kayaking
- Boating: Power/Sailboating
- Camping: Guest Rentals
- Camping: RV
- Camping: Tent

- Fishing: Freshwater
- Fishing: Marine
- Off-Highway Vehicle [OHV] Use
- Resort: Gaming
- Resort: Golf
- Trail-Related: Hiking
- Trail-Related: Biking
- Trail-Related: Horseback Riding
- Wildlife-Related: Bird watching/ Photography
- Wildlife-Related: Hunting
- Water Contact: Personal Watercraft [PWC] Use
- Water Contact: Swimming/Sunbathing
- Other: General Photography
- Other: Skydiving

SURVEY RESULTS

Potential recreation activities are presented below in the order of "priority" as a result of combining the results of the recreation survey by both the ORATF and stakeholder feedback.

1. Bird watching/Photography
2. Power boating/Sailboating
3. Photography-general
4. Hiking
5. Camping - Tents
6. Freshwater Fishery
7. Kayaking
8. Marine Fishery
9. Biking
10. Camping - RVs
11. Swimming/Sunbathing
12. Camping – Guest Rentals
13. Horseback Riding
14. Windsurfing
15. PWC
16. Hunting
17. Resort - Golf
18. Resort - Gaming
19. Skydiving
20. OHV Use

The surveys further divided the Sea into four areas to evaluate facility locations: North [Zone 1]; East [Zone 2]; South [Zone 3]; and West [Zone 4]. Summary of survey results identified the zone(s) preferred for facility location. A summary table of prioritized activities, existing/proposed average annual capacity, and implementation costs is available in Table ES-1.

ECONOMIC DEVELOPMENT

The Salton Sea generates tourist-based income and employment for the surrounding communities. It also represents an essential infrastructure for the local economy by serving as a repository for stormwater and agricultural runoff from the Imperial and Coachella valleys. The

Sea also provides a number of other functions that influence the local economies, including providing subsistence fishing for local Native Americans and serving as an aesthetic asset to the region.

The project and related actions may affect social and economic conditions of areas near the Sea. These areas may be classified into: 1) the local area with the most direct economic effects from restoring the Sea, and 2) the regional area that has an economic relationship with the Sea. For purposes of this analysis, the first is considered to be contained within an approximate ten (10) mile radius of the shore also encompassing the communities of Mecca, Calipatria, Niland, and Salton City.

The proposed project assumes restoration of the entire Sea. Under this program the Sea could be maintained at or slightly below its current size and elevation. It is estimated that the total construction costs could range from approximately $300 million to $1.0 billion over five years. Due to time lags in data collection and processing, most data series are for 2003 which is the most recent year available. While there has been a recent spark of economic revitalization in the area, current conditions are expected to be similar in scale and magnitude because no major events have occurred in the area to date to substantially affect economic trends.

The construction and operation of the restored and revitalized Sea are likely to result in positive economic effects on communities immediately adjacent to the shoreline of the Sea as well as Imperial and Riverside Counties. Assuming an investment ranging from approximately $300 million to $1.0 billion over five years to restore the Sea, positive economic effects could include increased spending for wages of workers from the local area, increased profits to local material suppliers and service providers as well as increases in short- and long-term job creation.

It is estimated that, restoration of the Sea could result in incremental property taxes to support restoration with a net present value amount of approximately $626 million. It is envisioned that Salton Sea restoration could stimulate the development of new residential housing units within proximity of the Sea. For the purposes of this analysis, given the available land base, it was estimated that about 80,000 units to be constructed over a period of 30- to 40-years upon completion of the restoration project, primarily in three regions along the northern and western shore of the Salton Sea.

This page intentionally left blank.

Table ES-1. Summary of Evaluation of Recreation Opportunities for Salton Sea.

Ranking	Activity	Zone(s) ('*' denotes preferred zone)	Facilities		Annual Capacity		Implementation Cost (not including cost of land acquisition)
			Existing	Reasonable Capacity	Existing	Projected	
2	Boating: Power Boating, Sailboating, Houseboating	East [Zone 2]	8 existing ramps/marinas	12 new ramps/marinas	Power/Sail launches: 200,000 Houseboat Rentals: 0	Power/Sail launches: 2.4 – 60 million Houseboat rentals: 144	Basic boat launch with small piers/floating docks $100,000 to $0.5M; major marina facilities >$10M
7	Kayaking	East [Zone 2] and West [Zone 4]	8 existing launch areas	19 new beach launch/minor docks	Unregulated use	100,000	Basic kayak launch with small piers <$100,000
12	Camping- Guest Rentals	East [Zone 2] and West [Zone 4]	Multiple Cabins	Multiple Cabins	Unknown	Unknown	Cabin development : $100,000 to >$10M
10	Camping- RV	East [Zone 2] and West [Zone 4]	13 existing	Up to 20 new facilities	3,000 to 4,000	22,800	Facility development: <$1,000 to $1M
5	Camping- Tent	East [Zone 2] and West [Zone 4]	13 existing	Potential for expansion of a few existing facilities; Up to 10 new facilities	2,000	3,000	Facility development: <$1,000 to $0.5M
6	Freshwater Fishing	North [Zone 1]; East [Zone 2]	No designated facilities	Up to 5 new facilities	Limited by available habitat	Dependent on demand-Limited by available habitat	Fully developed launch facilities: $500,000 to $1M; shoreline access <$100,000
8	Marine Fishing	North [1], East [Zone 2], and West [Zone 4]	No designated facilities	Up to 10 new facilities	60,000 anglers	120,000 – 180,000 anglers per year	Fully developed launch facilities : $500,000 to $1M; shoreline access <$100,000
20	Off-Highway Vehicle	All Zones	No designated facilities	8 new	Very Small	Dependent on demand	Minimal facilities and services <$100,000
18	Resort/Gaming	North [Zone 1] and West [Zone 4]	None	12 restored/new	Very small	1.2 million	Cost range likely from $1M to >$10 M
17	Resort/Golf	West [Zone 4]*	None	60 – 300 new	N/A	3.6 – 18 million	Cost range likely from $1M to >$10 M
Biking: 9 Hiking: 4 Horseback Riding: 13	Trail Related - Hiking, Biking, Horseback Riding	Biking: North [Zone 1]; East [Zone 2], South [Zone 3] Hiking: North [Zone 1]; East [Zone 2], South [Zone 3] Horseback Riding: East [Zone 2]	No designated facilities	Biking: 96 new Hiking: 96 new Horseback: 96 new	Biking: N/A Hiking: N/A Horseback Riding: N/A	Biking: 400,000 users Hiking: 400,000 users Horseback: 400,000 users	Basic trail facilities and supporting infrastructure : <$100,000 up to $0.5M; More elaborate systems: up to $1M
1	Wildlife Related-, Bird watching/Photography	North [Zone 1]; East [Zone 2], South [Zone 3]	No designated facilities	8 new	6,000	60,000 – 120,000	Basic facilities: <$100,000; More complex structures range from $100,000 to $0.5M
16	Wildlife Related- Hunting	South [Zone 3]	No designated facilities	4 restored/new	10,000 use days	12,000 use days	Basic facilities: <$100,000; more complex structures: $100,000 to $0.5M
15	Water Contact Activities- Personal Watercraft	East [Zone 2] and West [Zone 4]	8 existing ramps/marinas restored	8 existing ramps/marinas restored; 12 new ramps/marinas	100,000 launches	1.5 – 2.5 million launches	Basic boat launch with small piers: $100,000 to $0.5M; major marina facilities >$10M
11	Water Contact- Swimming/Sunbathing	East [Zone 2] and West [Zone 4]	6 existing beaches	14 new beaches	Unknown	50,000	Basic beach facility with small piers and boom: $100,000 to $0.5M
14	Water Contact- Windsurfing	East [Zone 2] and West [Zone 4]	6 existing beaches	4 new beaches or hand-launch areas	100,000 launches	1.5 – 2.5 launches	Basic beach facilities, hand launch: $100,000
3	General Photography	All Zones	Opportunities are available around the Sea and in surrounding areas; unregulated activity.				Basic facilities: <$100,000
19	Skydiving	Not included in discussion due to low support from survey respondents. May be re-evaluated at a later date provided user support enables the implementation of this activity.					
Not Ranked	Write- In: Cultural Tourism	All Zones; tied to specific physical or historic features, land uses, or habitats	No designated facilities	12-24 minor; 6-12 major facilities	N/A	50,000	Simple facilities: <$100,000; museums and complex exhibits: $100,000 to $500,000

Table of Contents

Table of Figures

Table of Tables

List of Appendices

List of Acronyms

Authority	Salton Sea Authority
BEA	Bureau of Economic Analysis
BLM	U.S. Bureau of Land Management
CDFG	California Department of Fish and Game
CVAG	Coachella Valley Association of Governments
CVWD	Coachella Valley Water District
DO	Dissolved Oxygen
DKSA	D.K. Shifflet & Associates
DRA	Development Research Associates
DWR	Department of Water Resources (State of California)
EIS	Environmental Impact Statement
EIR	Environmental Impact Report
FAR	Floor-Area Ratio
IFD	Infrastructure Finance District
I-O	Input-Output
JPA	Joint Powers Agreement
NWR	National Wildlife Refuge
NPV	Net Present Value
OHV	Off-Highway Vehicle
O&M	Operations & Maintenance
ORATF	Outdoor Recreation Advisory Task Force
PEIR	Programmatic Environmental Impact Report
PWC	Personal Water Craft
QSA	Quantification Settlement Agreement
Reclamation	U.S. Bureau of Reclamation
RIMS	Regional Industrial Multiplier System
RIMS II	Regional Input-Output Modeling System
ROI	Record of Intent
RV	Recreational Vehicle
USFWS	U.S. Fish and Wildlife Service

Chapter 1
INTRODUCTION

1.1 BACKGROUND INFORMATION

1.1.1 Background Information and Scope of Work of the Opportunities Assessment

The Salton Sea Authority [Authority] has been tasked to conduct an opportunities assessment of recreation and local economic opportunities that could be implemented as part of an ecosystem restoration program at the Salton Sea. This assessment will focus on recreation and local economic opportunities associated with alternatives that will be considered in the Programmatic Environmental Impact Report [PEIR] for ecosystem restoration that is currently under preparation by the California Department of Water Resources [DWR].

Various economic and recreational committees have been formed over the past several years to assess opportunities at the Salton Sea, and several assessments of economic and recreation opportunities have been completed. These efforts have included the work of the Salton Sea Authority Economic Development Task Force, which commissioned the Rose Institute Report (1999), the Citizen's Advisory Committee that reviewed the U.S. Filter proposal in 2003 and the Outdoor Recreation Advisory Task Force [ORATF] that was formed in February 2004 and provided their report later that year. In meetings with these groups, three factors have consistently been identified as the critical for future economic development:

- Improvement of water quality, including control and reduction of salinity;
- Stabilization of the water surface elevation; and
- Reduction of odors.

These factors have been assumed to be part of any restoration program for the Salton Sea.

Numerous recreational facilities and opportunities for recreation and economic development currently exist around the Sea. However, many facilities are under used and have fallen into disrepair because of poor water quality and the associated odors that often occur around the Sea. The current effort will build on the assumption that alternatives under consideration will improve water quality and reduce odors.

The Authority was tasked to develop a prioritized list of specific recreational activities, user areas, facilities, services, and other amenities, consistent with the ecosystem management focus of the program, that address protection and possible enhancement of recreation values surrounding the Salton Sea. The specific recreation needs, along with supporting details and data concerning technical, economic, social, and environmental factors associated with possible implementation, will be considered for inclusion in specific alternatives being developed as part of the Ecosystem

Management Plan PEIR. Recreational conditions without implementation of the project are also discussed as a point of comparison.

The Authority was tasked to develop plans in sufficient detail, and consistent with the ecosystem management focus of the program, to address the opportunities for spurring local economic conditions surrounding the Salton Sea. A prioritized list of conceptual economic improvement proposals and supporting information was prepared that could be included as part of alternatives being considered in the PEIR. Each proposed economic improvement documented the potential to create and/or augment opportunities for local economic growth and discussed the opportunities each proposal provided in terms of a stimulus to the local economy.

Criteria were developed to evaluate whether the proposals being analyzed would, in fact, provide a stimulus to the local economy. Conceptual economic development projects were to reflect the values and desires of various stakeholder and diverse interest groups. The final report identifies the economic opportunity from project construction and ongoing operations and maintenance, recreation development and eco-tourism, attraction of industries (i.e., geothermal, gaming, enterprise zones), and other economic stimulus projects, plus the characteristics of land, economic incentives, Sea condition, and population.

1.1.2 Recreation Resources

Soon after its creation, the Salton Sea became a major draw for outdoor recreation. The potential of the Sea for this purpose was captured in a newspaper article of the late 1970s that noted: "We are very enthusiastic about prospects for the beach down here. Salton Sea is destined to become one of the nation's greatest play spots." By 1958, the North Shore Beach area had been developed and a yacht club touted as a $2 million marine paradise with one of the largest marinas in Southern California had been built and was being used by a number of Hollywood celebrities (Horvitz 1999). The development of Salton City also began in earnest during the 1950s on the west side of the Salton Sea. Included were a championship golf course and the Salton Bay Yacht Club, both of which were frequented by Hollywood celebrities. It was claimed that Salton City would become the most popular sea resort in all of Southern California. The Salton Sea State Park (later the Salton Sea State Recreation Area) was dedicated on February 12, 1955. It served as an important inland recreation area until the late 1970s, when visitation declined markedly because of the deteriorating environmental quality of the Sea. This facility has 1,400 campsites, hundreds of day use sites, and other amenities (Horvitz, 1999). Annual visitor use in 2002 was about 250,000 people.

Boat racing became a popular activity early in the history of the Salton Sea and continued for many years. The Salton Sea 500 was a popular 500-mile boat race during the 1960s and was viewed by more than 5 million people when featured on CBS's "Sunday Sportstacular." The Salton Sea 300 replaced the historic boat races and is billed as the fastest, longest personal watercraft race in the world (Horvitz 1999).

Sport fishing remains a popular activity at the Salton Sea, along with waterfowl hunting and bird watching. The sport fishing is the result of introduction of saltwater fish from the Gulf of Mexico during the early 1950s and the introduction of tilapia, an exotic species from Africa, during the 1970s. Orange-mouth corvina is the most prized sport fish species. Orange-mouth corvina over 30 pounds are occasionally caught; however, fish over 10 pounds are common. A past report by the California Department of Fish and Game (Black 1985) indicated that the Salton Sea is one of California's highest quality fisheries. That determination endured until recently (Costa-Pierce and Riedel 2000) but cannot be sustained unless the increasing salinity of the Salton Sea is arrested (Black 1985; Costa-Pierce and Riedel 2000).

Waterfowl hunting has been a popular activity at the Salton Sea since at least the 1920s. There are a substantial number of private duck clubs along the Sea and on adjacent lands. Hunters are also provided waterfowl opportunities on portions of the Sonny Bono Salton Sea National Wildlife Refuge and on the State's Imperial Wildlife Area Wister Unit.

The Salton Sea International Bird Festival attests to the popularity of the Salton Sea ecosystem as a haven for bird watching. This festival has been held annually since 1997. An earlier economic analysis of bird watching at the Salton Sea reported substantial contributions to the economy of the small local communities surrounding the Salton Sea.

Existing recreational facilities at the Sea include the Salton Sea State Recreation Area, operated by the California Department of Parks and Recreation, and a number of smaller facilities, such as boat ramps that are operated under county and local government and by private parties.

A variety of other recreational activities also take place at the Salton Sea including photography, camping, and kayaking. Because of its relative proximity to the large metropolitan areas of San Diego and Los Angeles, the Salton Sea is a valuable resource. With projected increases in human population growth within Southern California and the importance of outdoor recreation as a human activity, the large size of the Salton Sea makes it an even more valuable resource for the future. That value can only be realized through a Salton Sea with acceptable water quality for the humans that are seeking water-related recreational opportunities.

Although the Salton Sea continues to draw visitors, recreational use in the past was higher and more varied than it is today. In addition to fishing, boating, and hunting, past use included camping, picnicking, and numerous water sports, such as water skiing, and swimming. These different recreational opportunities at the Sea attracted many visitors to the region. Over the years, increasing surface water elevations flooded recreational facilities along the shoreline. In addition, decreasing water quality, increasing public perceptions of potential health risks, and aging of recreational facilities at the Sea led to visitor decline.

Today, the Sea remains extremely popular for bird watching, camping, and fishing. Although opportunities are plentiful for boating, swimming, and water skiing, these activities have markedly declined since the early 1960s. A main goal of the Authority in providing support to DWR in the Salton Sea Ecosystem Restoration Program includes restoring and enhancing recreational activities at the Sea, to "maintain and improve access to the Sea for a variety of recreational activities and enhance the shoreline condition to encourage use." Salinity control or reduction measures could make the Sea more attractive to boaters, and shoreline maintenance efforts associated with a restoration program would improve accessibility.

1.1.3 Economic Opportunities

A healthy Salton Sea ecosystem with its associated avian wildlife, sport fishing, and surrounding natural beauty are fundamental attractions for people visiting or settling at or near the Sea. This human use provides a foundation for economic development that extends beyond the productive agriculture of the area. In addition, stabilizing the Sea's surface elevation is important for shoreline development. Water elevation and salinity control will play a significant role in increasing opportunities for economic development around the Sea.

Principal direct effects on employment in Imperial County or in central Riverside County, depending on where the restoration effort is located, would result from employment of local skilled and unskilled laborers for hauling and other construction related work. Additional indirect employment and earnings would also be expected as a result of increased regional employment and expenditures.

Within the restoration planning horizon, employment and expenditures of the restoration program would have additional positive effects on the local economy. The staff of restoration facilities would take up residence in the Coachella-Imperial area, adding slightly to the local employment, population, retail activity, tax base, and housing demand. In addition, the increased direct (project-related) employment and expenditures would generate additional indirect employment and income. Economic benefits would also accrue as a result of development of other programs, such as, wildlife disease control, created wetlands, recreation and information programs, eutrophication assessments, fish recovery, fishery management, and economic recovery assistance, which are planned along with the salinity control measures. Over the long-term, there is the possibility of large-scale positive effects from shoreline- and recreational-based developments attracted by improvement of conditions around the Salton Sea.

Development Research Associates [DRA], in 1969, conducted an economic benefits study of the Salton Sea area for the State Water Resources Control Board. In calculating the local income effects at the Salton Sea, DRA concluded that the communities surrounding the Sea had a weak economic base in that the only industries in the area were retail. There was no manufacturing or wholesaling to keep the dollars spent in the local area within the local economy. Of every dollar spent at the Sea, the largest percentage leaked out of the local economy in payment for goods and services, which must be imported. However, whatever income accrued to local entrepreneurs and wage earners was assumed to create additional (indirect) income for the local economy.

The Bureau of Reclamation has also estimated that construction of restoration facilities would require additional employees, some of whom would be workers from outside the area. Due to the temporary nature of construction activity, it is not expected that any significant secondary employment would be introduced into the local economy, unless the effort was on a very large scale, as some restoration options might require. Considering the industrial development of Imperial and Riverside Counties, it was assumed that approximately 75 percent of the annual construction expenditure would be conducted locally for labor and materials, if construction takes place in Imperial County. It was assumed that 80 percent would be conducted locally, if the area north of the Salton Sea in Riverside County was chosen for construction of the restoration facilities.

Over the long term, successful restoration of the Sea would spur development in the area and lead to additional positive economic benefits, including increased employment and income. In 1998, Michael Bazdarich, Director of the Inland Empire Economic Databank and Forecasting Center, University of California, Riverside, conducted a study titled "An Economic Analysis of the Benefits of Rehabilitating the Salton Sea". In 1998, Bazdarich estimated an average annual flow of benefits equal to $160 million from the restoration of the Salton Sea as a result of increased economic activity and increased property value within 1/2 miles of the shoreline. He further assumed that benefits accruing outside the 1/2-mile area could range between 50 and 100 percent of the benefits in the 1/2-mile area, thus increasing the total annual benefits to a range of $240 to $320 million.

1.1.4 Odors

Salton Sea odors occur primarily as a result of decaying organic matter. The Salton Sea is characterized by an overabundance of nutrients, primarily from irrigation runoff, that produce eutrophic conditions and results in phytoplankton blooms. Phytoplankton are floating microscopic plants that exist in the upper levels of the Sea. In large abundance, these microorganisms die and decompose, resulting in the production of obnoxious odors over extensive areas of the Sea (US DOI 1970). This problem is most prevalent in the summer

months, when freshwater inflows to the Sea are low and temperatures are high. Compounding this problem are high sulfates and other compounds of the saline Sea.

Phytoplankton blooms are partially responsible for a second source of foul odors at the Salton Sea, fish and bird kills. Beginning in the 1980s, as elevation and salinity of the Sea were rising, the fishery began to decline, periodic algal blooms occurred, and die-offs of both fish and birds began to occur. During the past several years, large die-offs of fish (tens of thousands) have occurred periodically. For instance, in 1997, large die-off events occurred in January, August, and September. Bird die-offs, some caused by Type C avian-botulism, avian cholera, and Newcastle disease, have affected at least one-fifth of the approximately 400 species that frequent the region. These episodic die-offs result in unpleasant odors as the fish and birds decompose on the shoreline, releasing biogases high in hydrogen sulfide.

Odors associated with blooms and die-offs are most common on the south and east sides of the Sea, though they can occur anywhere at anytime. Odors are most prevalent and intense during the summer when temperatures are extreme and prevailing winds are mostly out of the southeast. The predominant wind direction is from the west during the remainder of the year. Overall, dominant wind directions are west, west-southwest, west-northwest, and southeast. High winds occur most frequently between April and May.

Odors are a social factor that can negatively affect the desirability of the Salton Sea region as an area to visit, recreate, or reside. Odors associated with the Salton Sea are a result of water quality, nutrient levels, and other biological factors, which are discussed in other sections of this document. Most drainage into the Salton Sea originates at the Colorado River, where waters are diverted westward through canals to the Coachella and Imperial Valleys for irrigating agricultural lands. Approximately one fifth of this irrigation water ultimately drains into the Salton Sea (US DOI 1970).

1.2 PURPOSE AND USE OF THE OPPORTUNITIES ASSESSMENT

Historically, the Salton Sea and surrounding lands have been a major source of recreation opportunities for Southern Californians as well as others, and recreation has been a major economic driver for economic activity and prosperity at the Salton Sea and throughout the surrounding region. Besides agricultural activities occurring within Imperial County, recreation could be the next most important economic stimulator in south-central Riverside County and northern Imperial County.

Several studies (DRA 1969; Bazdarich 1998; Rose Institute Report 1999; RSG 2003) have documented the level of economic loss to the region resulting from impairment of current ecosystem conditions and deteriorating water qualities at the Salton Sea. Improvement of recreation opportunities, and associated economic development opportunities arising from increased recreation and stable environmental conditions, are considered critical components for any successful ecosystem restoration program and pivotal for the long-term prosperity of the Salton Sea region.

This assessment prioritizes recreation and economic development recommendations and opportunities that can be incorporated as components of an ecosystem restoration alternative. These recommendations will be based on past recreation and economic activities in the immediate Salton Sea region, as well as public input regarding appropriate sustainable opportunities. The environmental review process, mandated by the State of California for implementation of any ecosystem restoration program in the PEIR, will consider the potential environmental effects of any such program, and will also consider potential benefits to recreation and socioeconomic conditions resulting from any restoration improvements. In addition, the

large amount of federally held lands in the vicinity of the Salton Sea, and the likelihood of a future need for federal actions associated with any restoration program, makes the need for federal environmental compliance probable. In addition, the federal compliance process also requires evaluation of socioeconomic effects from any restoration action.

Since the DWR PEIR process has only recently been initiated, no specific alternative descriptions are currently available by which to base specific recommendations for recreation facilities or economic development projects. Therefore, the opportunities identified in this assessment must be conceptual in nature, so that they can be evaluated, selected, and incorporated into any range of possible restoration alternatives that will be evaluated in the DWR PEIR.

1.3 STUDY AREA

The Study Area selected for the Recreation and Economic Opportunities Assessment corresponds to the area encompassed by a Tax Increment Financing District evaluated by the Authority in 2003 and adopted as the basis for future efforts to restore the ecological environment of the Salton Sea, and to stimulate long-term economic growth in the area (RSG 2003).

The Salton Sea is located in the southeastern desert of California and falls within both Riverside and Imperial Counties. The Authority was created in June of 1993. It was formed as a public agency under a Joint Powers Agreement [JPA] by and between the County of Imperial, the County of Riverside, the Coachella Valley Water District, and the Imperial Irrigation District pursuant to the provisions of Articles I and II, Chapter 5, Division 7, Title 1 (commencing with Section 6500) of the Government Code of the State of California.

The purpose of the Authority is to facilitate the preservation and restoration of the Sea as an ecological and recreational resource, as well as a continuing repository of agricultural drainage water. Though it is anticipated that an effective restoration project would be costly, it could result in substantial private investment in the area. Thus, restoration efforts result in significant increases in property values as well as incremental increases in property taxes. Based on an effort in 1999 sponsored by the Authority and other local supporters, the California legislature added Section 53395.9 to the Government Code to authorize the Authority to form an infrastructure-financing district to capture tax increment revenue to fund Sea restoration projects.

The jurisdictional boundaries of the Authority indicate that the Authority shall exercise its powers and achieve its purpose within the geographical area bounded by the right-of-way farthest from the shore of California State Highway 111, Avenue 70, Lincoln Street, Avenue 72, Buchanan Street, California Highway 86, Bannister Road, Kalin Road, and Sinclair Road to California State Highway 111 (Figure 2-1). The parties of the JPA may amend the boundaries of this geographical area in the future. The boundaries encompass the "Base Area." In a study, the Rosenow Spevacek Group recommended that a larger "Expanded Area" be designated and used as the basis for future restoration and economic planning activities (RSG 2003).

The "Expanded Area" incorporates the boundaries of the Base Area as well as additional land on the northeast side of the Sea, which is bounded by the Coachella Canal, Club Drive View, Power Line Road and Salt Creek Road. The Expanded Area also includes land on the northwest side of the Sea just west of the California Highway 86. The expanded area was included to evaluate the financial implications of expanding a finance district beyond the current jurisdictional boundaries of the Authority. The current boundaries are much closer to the Sea's shoreline in the north than they are in the south. The Expanded Area was designed to provide a more balanced

boundary while including lands on the west, north, and east sides of the Sea that may experience property value increases under one or more restoration scenarios.

The Recreation and Economic Opportunities Assessment utilizes the boundaries of the "Expanded Area" as the basis for evaluating recreation and economic opportunities as candidate for inclusion as components of a restoration scenario to be evaluated by DWR.

1.4 PUBLIC INVOLVEMENT

In February 2004, the Authority appointed an ORATF to evaluate the recreational potential of a restored Salton Sea and present recommendations to the board. The original purpose of the ORATF was to review and comment on the evaluation process leading up to the recommendation of an ecosystem restoration "Preferred Project" that would be pursued by the Authority, subject to financing and environmental clearances. The ORATF presented their report to the Salton Sea Authority Board of Directors on June 24, 2004 and their report was included as an appendix to the Authority's Preferred Project Report (SSA 2004). In their report, the Committee discussed the following issues:

- Fiscal benefits of ecosystem improvements, including those to recreation amenities, those concerned with increased travel to the area, and those associated with new temporary jobs (construction) and permanent employment.
- New industries resulting from, or made possible by, ecosystem improvements.
- Potential public revenues, including sales, property, state and federal income, and transient occupancy taxes.
- Consequences of failure to restore the Sea, including both environmental and economic impacts.
- Economic feasibility of ecosystem improvements, including identification and quantification of potential funding sources.

The ORATF was reconstituted for the effort associated with this Recreation and Economic Opportunities Assessment. The past experience and range of expertise of the ORATF members was considered invaluable in providing perspective and input regarding past, present, and future recreation and economic opportunities at the Salton Sea. The membership of the ORATF was expanded to encompass a group having greater geographic coverage and a greater range of recreation and economic expertise and experience. Many of the original task force members were from Imperial County. The final ORATF group consisted of 28 individuals (Table 1.4-1).

After the membership of the reconstituted ORATF was finalized, each member was asked to complete a written Recreation Opportunities Survey of potential recreation activities and facilities that would be desirable in the Salton Sea area, assuming the implementation of an ecosystem restoration program that would include the following:

- Improvement of water quality, including control and reduction of salinity;
- Stabilization of the water surface elevation; and
- Reduction of odors.

The results of these surveys are discussed in Section 2.4.3.

Following collection of ORATF survey results and final determination of survey target information, Recreation Opportunities Surveys were distributed to all members of the Salton Sea Authority mailing list and the State of California DWR Salton Sea Restoration mailing list. In

addition, two public meetings were held on Thursday, April 28, 2005, to solicit comments from the general public and stakeholders on the Recreation Opportunities Survey. The two meetings were held at separate locations, one at the north end of the Sea in Desert Shores, and one at the south end of the Sea in Calipatria. These public meetings were advertised by the Authority to their mailing list of interested parties, to the members of the ORATF, and in press releases to local newspapers and media outlets. In addition to the written survey forms submitted by the ORATF members, verbal comments and summaries of discussions held during the public meetings were incorporated into the a prioritization listing for recreation activities and facilities found in Section 2.4.3.

Table 1.4-1. Participants in the 2005 Outdoor Recreation Advisory Task Force.

Region	Affilitation	Representative(s)
Coachella Valley	City of Desert Hot Springs	Hank Hohenstein
Coachella Valley	Coachella Valley Recreation & Park District	Stan Ford / Kevin Kalman
Coachella Valley	Salton Sea Duck Clubs	Mike Maier
Coachella Valley	Indio Chamber of Commerce	Sherry Johnson
Coachella Valley	Palm Springs Citizen	Glenn Baxley
Coachella Valley	Regional County Parks	Paul Frandsen
Imperial Valley	Bombay Beach Community Services District	Christine Harris
Imperial Valley	Brawley Chamber of Commerce	Sue Giller
Imperial Valley	Brawley Economic Development Commission	Bill Gates / Tim Kelley
Imperial Valley	Cal Energy	Vince Signorotti
Imperial Valley	City of Calipatria	LeaAnne O'Malley
Imperial Valley	City of Westmorland	Victor Torres
Imperial Valley	Farm Bureau	Wayne Olesh
Imperial Valley	Farm Bureau	Al Kalin
Imperial Valley	Farmer	Bill DuBois
Imperial Valley	Hunting and Fishing Interests	Fred Singh
Imperial Valley	Jack Hart Insurance	Jack Hart
Imperial Valley	New River Wetlands	Leon Lesicka
Imperial Valley	Niland Chamber of Commerce	Cliff Lawrence
Imperial Valley	Ocotillo Wells State Recreation Area	Kathy Dolinar
Imperial Valley	Salton Community Services District	Shirley Palmer
Imperial Valley	State-wide Off Road Association	Harold Soens
Other	California Department of Fish & Game	Jack Crayon
Other	Sonny Bono National Wildlife Refuge	Chris Schoneman
Other	Torres Martinez Tribe	Jacob Ward
Other	United Anglers	Tom Raftican

Chapter 2
RECREATION RESOURCES

2.1.1 Introduction

Recreation resources in the Salton Sea study area include a wide range of activities, from birding to off-highway vehicle [OHV] use. The most common local recreational activities existing around the Sea include sport fishing, boating, bird watching, camping, hunting, ecotourism, OHV use and rock hunting. Recreation has been adversely affected in recent decades by the declining water quality and significant fluctuations in water surface elevation and many types of recreational activities have dramatically declined. Recreation activities such as swimming, water skiing, boat racing, and personal water craft [PWC] racing, which were once popular activities, are virtually nonexistent today. The trend for recreation adjacent to the waters of the Sea has changed from water/body contact activities to non-water/body contact activities.

This chapter discusses the existing types of recreation activities pursued in the Salton Sea study area; existing recreational facilities, their capacities, and the level of use they currently sustain; the key issues and problems that would need to be addressed to enhance the various types of recreation; the opportunities for enhanced recreation if the key issues/problems are addressed; and recommendations. The specific recreation facilities are described by zones around the Salton Sea as defined in Section 2.1.3.

2.1.2 Regional Recreation

The location of the Salton Sea is in close proximity to highly populated areas of Southern California. The Sea is 45 miles from Palm Springs, 100 miles from Riverside, and 150 miles from both Los Angeles and San Diego. The combined population of Los Angeles, Orange, San Diego, Riverside, and San Bernardino Counties is over 18 million (U.S. Census Bureau 2004). The opportunity for the Salton Sea to fill the ever-increasing demand for outdoor recreation in this region is high.

There are an abundance of regional recreation opportunities within the Salton Sea study area. The study area is bounded by and includes Joshua Tree National Monument to the north, the Colorado River to the east, the northern tip of the Gulf of California to the south, and the Anza-Borrego State Park to the west (Figure 2-1). The study area has an abundance of recreational opportunities ranging from cultural tourism sites, to thousands of miles of OHV trails. This summary of regional recreation will be divided into four distinct zones north, east, south, and west of the Sea (Figure 2-2).

The region north of the Salton Sea includes such well-known recreation areas as Palm Springs, Joshua Tree National Monument, Mecca Hills, and the San Jacinto Wilderness Area. Resort recreation mixed with natural and cultural opportunities highlight this area. The blend of these extremes has become a trademark attraction to this area of California, which varies from the

typical golf/tennis resorts of Palm Springs and its surrounding communities, to numerous state ecological reserves, palm oases, and alpine experiences of the San Jacinto Wilderness. Some of the typical recreation activities of this region include golf, tennis, gaming, camping, hiking, interpretive walks, birding, mountain biking, auto touring, horseback riding, rock climbing and nature viewing. Quality accommodations support these varied forms of recreational activity providing a desirable experience and attractive power for regional visitors regardless of pursuit.

East of the Salton Sea to the Colorado River there are thousands of square-miles of open space with widely distributed dispersed recreational opportunities. The major forms of dispersed recreation within the desert portion of this region are focused on OHV use, camping, cultural touring (highlighting historic mining and water conveyance), and geologic sites touring. The highest concentration of recreational activity east of the Sea is along the Colorado River corridor. The Colorado River corridor is a highly desirable water-oriented resource attractant situated within reasonable distance of both Californians and Arizonans, making the lower stretch of the Colorado River capable of drawing millions of visitors annually. Some other key recreational sites and their assorted activities include the Native American geoglyphs, or "Intaglios" at Blythe, water skiing, boating, fishing, and wildlife viewing along the Colorado River near Parker, Yuma, and Picacho State Recreation Area. Active sand dunes, including those managed by the U.S. Department of Interior - Bureau of Land Management [BLM] at the Imperial Sand Dunes Recreational Lands, also provide popular sand OHV use and geologic discovery opportunities.

The southern portion of the regional study area extends from the Sea to the northern tip of the Gulf of California, encompassing the Colorado River Delta and Laguna Salada. Recreational opportunities are more limited in this region because much of the land is used for agriculture. From the Sea south to the U.S./Mexico border is a consistent grid of roads and irrigation canals separating low field crops and creating a visually monotonous setting. The only developed recreational facilities in this area are Wiest Lake County Park and the Finney-Ramer Unit of the Imperial Wildlife Area. These facilities, located along the Alamo River, offer boating, fishing, and waterfowl hunting. Limited OHV opportunities exist along the east and west edges of this area on both sides of the national border with the Yuma Desert Recreation Area, the only officially designated area for this use.

Recreational opportunities occur along the Colorado River and approximately 60 miles south of the U.S./Mexico border within the river's delta, south to the northern tip of the gulf. The wetlands of Rio Hardy and Cienega de Santa Clara, combined with the intertidal marshes of the gulf, provide extensive birding and wildlife viewing opportunities. The combination of large wetlands and marshes along with high quality sport fishing near El Golfo de Santa Clara attract thousands of visitors per year. Due to the lack of visitation data currently available within this area of Mexico, the extent of existing recreational use cannot be identified.

Lands west of the Sea to the Vallecito Mountains and Superstition Hills offer abundant recreational opportunities. Anza-Borrego Desert State Park and Ocotillo Wells State Vehicular Recreation Area are dominant recreational areas west of the Sea that provide both dispersed and developed recreation opportunities. Hiking, horseback riding, mountain biking, OHV use, auto touring, and wildlife viewing are popular dispersed recreational activities in this region. Both the Anza Borrego State Park and the Ocotillo Wells Vehicle Recreation Area are highly valued destinations, evidenced by their significant annual visitor use.

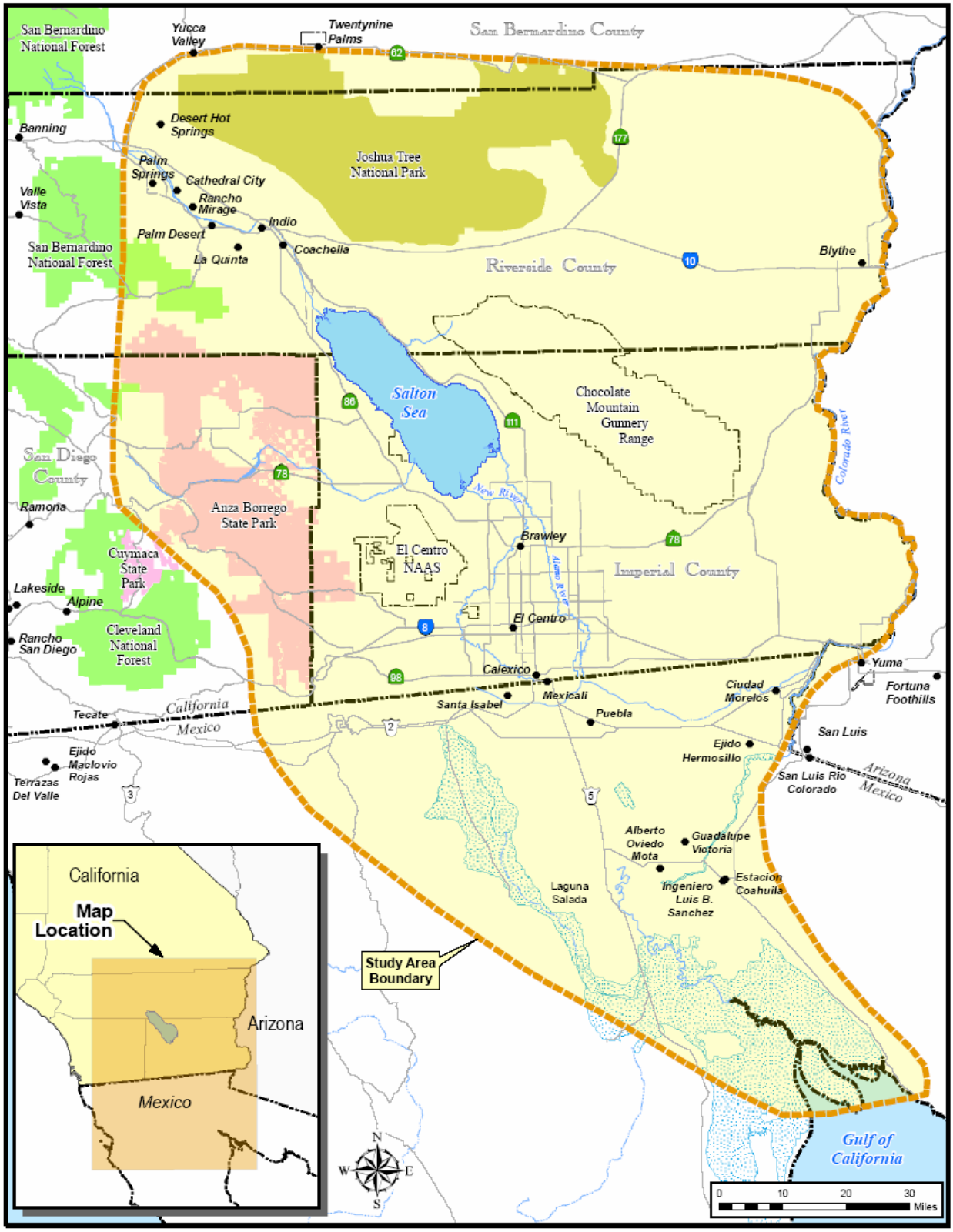


Figure 2-1. Salton Sea Regional Context Map.

It is likely that recreation demand pressures from population growth occurring in San Diego and San Bernardino Counties, combined with continued growth in western Arizona, will continue to pressure recreational resources and opportunities at the Salton Sea. If the water quality of the Sea is improved and the surface elevation is stabilized, the Salton Sea would provide numerous dispersed and developed recreational opportunities to an expanding population looking for additional places to recreate.

2.1.3 Types of Recreation

Boating

The Salton Sea is California's largest lake and offers unlimited, year-round boating opportunities. There are no substantive currents or tidal activity in the Sea and the high salinity produces excellent buoyancy. The Salton Sea 300, the world's longest and fastest personal watercraft race is held at the Salton Sea State Recreation Area [SRA] in December every year. In the 1950s and 1960s, the Sea was experiencing peak usage with 400,000 boats using the Sea per year (Horvitz 1998), and the Salton Sea SRA was the second busiest state park in California. Ambitious developments such as the North Shore and Salton Bay Yacht Clubs attracted celebrities and boaters from around the southwestern United States. However, boating has declined significantly in the past 20 years resulting from the often fluctuating water elevation which has rendered some boat launches inoperable, in addition to the poor water quality and foul odors from decaying biological materials.

Currently, there are eight major developed boat launches and/or marina facilities around the Sea as well as smaller undeveloped, informal launches. Facilities are located at numerous locations around the lake and include: North Shore Marina, Salton Sea State Recreation Area, Bob's Playa Riviera, Corvina Mobile Estates & RV Park, Bombay Beach Marina, Red Hill Marina, Salton Sea Marina, West Shores Boat Launching Facility, and Desert Shores Marina (SSA 2005). There are kayak access trails at the Salton Sea SRA. During the winter, rangers offer guided tours in the Park's interpretive boat to view the various species of resident and migratory birds that located at the Salton Sea.

Camping

There are nearly 4,000 campsites located around the shores of the Salton Sea, with 1,600 located at the Salton Sea SRA. Some campsites are well developed offering full hook-ups and water, but the majority are more primitive and do not have potable water available at each site (dry camps). Camping facilities are available at the Salton Sea SRA (5 campgrounds at SRA - Headquarters, New Camp, Mecca Beach, Salt Creek, Bombay Beach), Bombay Beach Marina, Bashford's Spa, Corvina Mobile Estates & RV Park, Lark Spa, Salton Sea Beach Marina, Salton City Spa and RV Park, Oleander Trailer Park, Imperial Mineral Spa, Fountain of Youth Spa, Johnson's Landing, Imperial Wildlife Area, and Red Hill Marina.

Fishing

In the past, the fishery at the Salton Sea was considered among the most productive in the world. All but one of the fish species in the lake are non-native introduced saltwater game species including tilapia, Gulf croaker, corvina, and sargo. The desert pupfish is the only native species and is listed as Endangered by the U.S. Fish and Wildlife Service. All game fish became well established following their introduction in the late 1950s; however, the fishery has declined in recent years due to increasing salinity. The fishery is attractive to tourists with over 75% of the people fishing at the Sea from outside of Imperial and Riverside Counties (Black 1988). There are no seasonal closures for the taking of game fish species, with a bag limit of 2 corvina

(possession limit of 4, 18 inch minimum size) the only restriction. In the 1960s through 1980s, fishing was very productive with the annual catch-per-angler hour for the four major species at 1.46 (Black 1988). This is more productive than other regional warm water reservoirs such as Lake Isabella, San Vicente, El Capitan, or Sutherland Reservoirs.

Desert pupfish occur in shoreline pools, agricultural drains, and tributary streams. They were listed as an endangered species by the State of California in 1980 and under the Federal Endangered Species Act in 1986 (The Redlands Institute 2000).

Of the game fish, tilapia is the least tolerant species due to their sensitivities to low oxygen levels and low temperatures. Tilapia are also susceptible to contracting a vibrio class of bacteria, weakening the fish and making them good habitat for botulism. When birds eat these sickened fish they may acquire the avian botulism and die. Fish kills have also been attributed to low dissolved oxygen levels in the lake as a result of high water temperatures and algae decomposition. The highly productive fishery may be a disadvantage during times of extreme conditions that cause massive fish or bird mortality (SSA 2005).

Off-Highway Vehicle Use

Off-highway vehicle [OHV] use is very popular in many of the public lands surrounding the Salton Sea. Ocotillo Wells State Vehicular Recreation Area is a 14,000 acre off-highway vehicle park on the west side of the Salton Sea. The world famous Imperial (Algodones) Dunes are located east of the Salton Sea with 118,000 acres of BLM lands available for OHV use (BLM 2005).

Resorts and Spas

Resort facilities along the eastern shore are in various stages of use due to increasing water elevations during the late 1970s that inundated the area and caused damage to facilities. Along the west shore a number of resorts and restaurants in this area are closed (SSAC 2004). There are limited resorts still operating around the Salton Sea.

Two hot mineral spas (Fountain of Youth Spa, and Bashford's Spa) are located 2 miles south of Bombay Beach on Spa Road.

Hiking

Hiking is a popular activity in the numerous public recreation areas such as the Salton Sea SRA, Sonny Bono National Wildlife Refuge, and numerous areas on BLM lands such as San Felipe Creek, Algodones Dunes Wilderness, Little Chuckwallas Mountains Wilderness, and the Mesquite Mine. There are dozens of hiking trails near Salton City and nearby Dos Palmas Reserve

Wildlife and Bird Watching

The Salton Sea is one of the most important wetlands along the Pacific Flyway. Several million birds migrate and inhabit the area every year. Over 400 species of birds have been counted at the Sea. More than two thirds of all species of birds in the continental United States have been recorded at the Salton Sea (The Redlands Institute 2000). The Sonny Bono Salton Sea National Wildlife Refuge [NWR], along the southeastern portion of the Sea is considered one of the premier bird-watching locations in the nation (SSAC 2004). The Salton Sea International Bird Festival began in 1998 and is held in mid to late February each year. Currently, bird-watching is one of the most popular dispersed recreational pursuits.

Major sites for wildlife and bird watching include the Salton Sea NWR, Wister Unit of the Imperial Wildlife Area, Salton Sea Recreation State Park, San Felipe Creek, and wetlands along the New and Alamo Rivers.

Hunting

Hunting is a popular sport for waterfowl, pheasants, and small mammals on state and federal lands. Hunting primarily occurs at the Imperial Wildlife Area and Sonny Bono NWR. Appropriate hunting permits obtained through the California Department of Fish and Game [CDFG] is required to hunt within the State of California.

Water Contact

Historically, swimming was a popular recreational activity at the Salton Sea, and the novelty of extremely buoyant swimming in highly saline water was initially an attraction at the Sea. Currently, there is a public perception that the lake is unsafe for swimming, even though technically it meets Water Quality Standards designated for this use. The odors from decaying algae and plankton and from fish and bird kills have dramatically reduced the use of the lake for swimming and other water contact recreational pursuits.

Other Activities/Facilities

Photography: The Salton Sea and the surrounding desert mountains offer a beautiful backdrop for photographic opportunities. Many photographers seek wetland areas that attract waterfowl and other wildlife in order to enhance their probability of capturing wildlife photos.

Cultural and Historic Resources: Numerous cultural and historic resources are present in the Salton Sea study area including the Bradshaw Trail, Mesquite Mine, San Sebastian Marsh, Coachella Valley fish traps, Torres-Martinez Indian Reservation, Old Plank Road, and the All-American and Coachella Canals. Many areas of prehistoric archaeological resources are being studied and protected by the BLM and other agencies and landowners. Ample opportunity exists to develop interpretive and educational facilities and trails focused on highlighting the rich archaeological and historic heritage of the area.

2.1.4 Recreational Facilities by Zone

Although most of the landscape and human uses surrounding the Salton Sea share common features and applications, there are distinct characteristics, existing uses, and conditions that vary from one shore edge area to the next. As a result, each of these shoreline areas will be affected differently by any specific restoration alternative and provide special opportunities for enhanced recreation specific to that area. These distinct characteristics can be used to divide the Salton Sea into a series of four zones. The physical boundaries of these four zones are defined by their proximity to the Sea and extending landward to the foot of the nearest mountain range or up to six miles from shore, depending on the location of Sea-related facilities (Figure 2-2).

This section defines the four distinct recreation study zones as follows:

- Zone 1: North Shore Area (Figure 2-3);
- Zone 2: East Shore Area (Figure 2-4);
- Zone 3: South Shore Area (Figure 2-5); and
- Zone 4: West Shore Area (Figure 2-6).

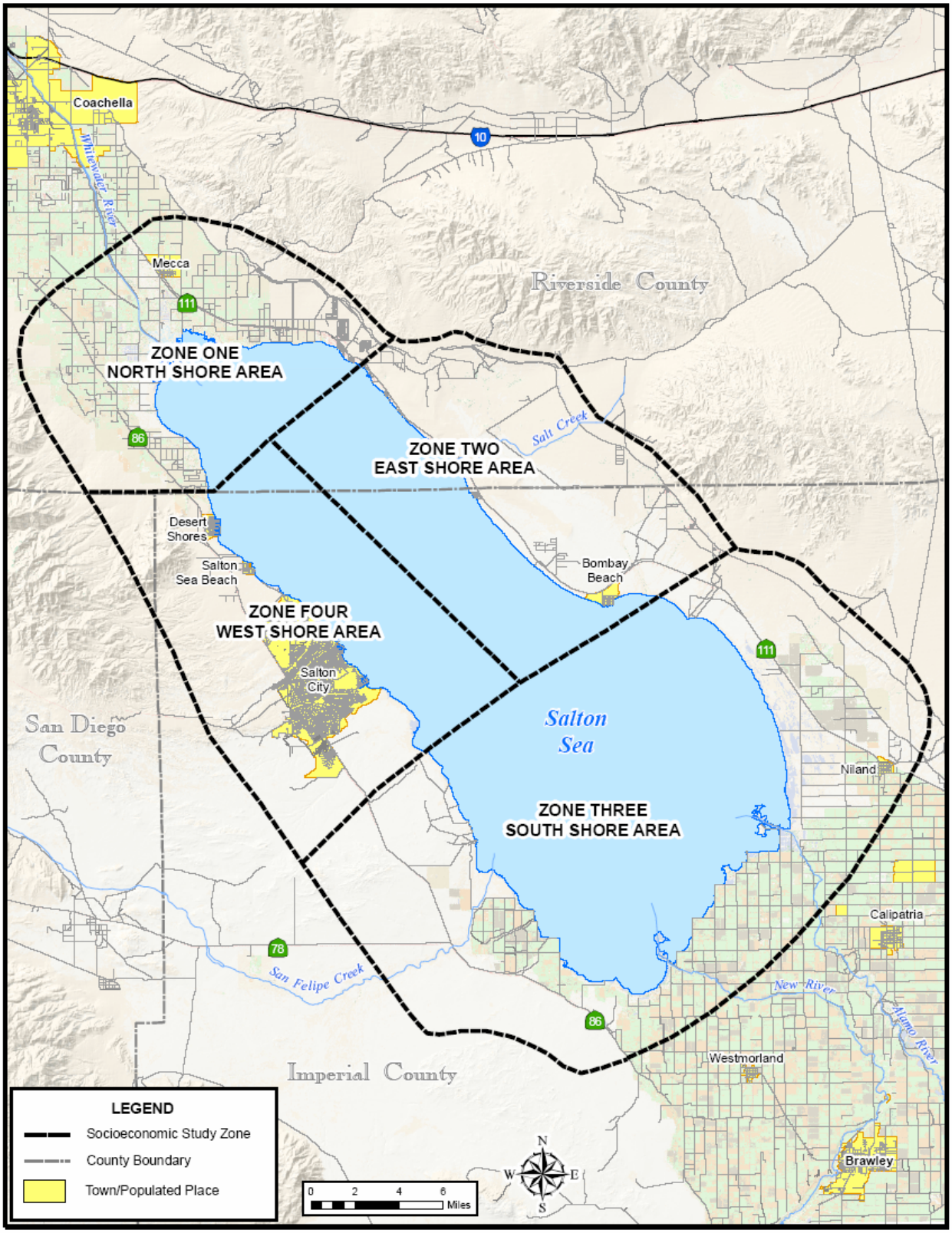


Figure 2-2. Salton Sea Study Area Study Zones.

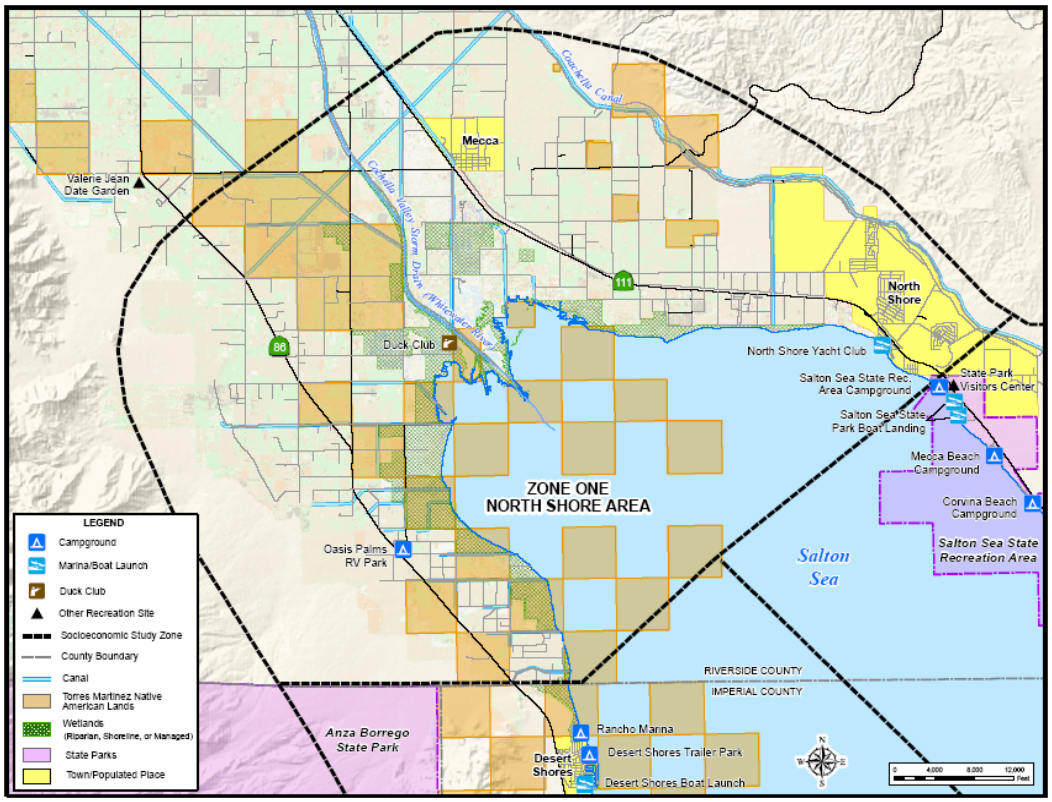


Figure 2-3. Map of Zone One: The North Shore Area.

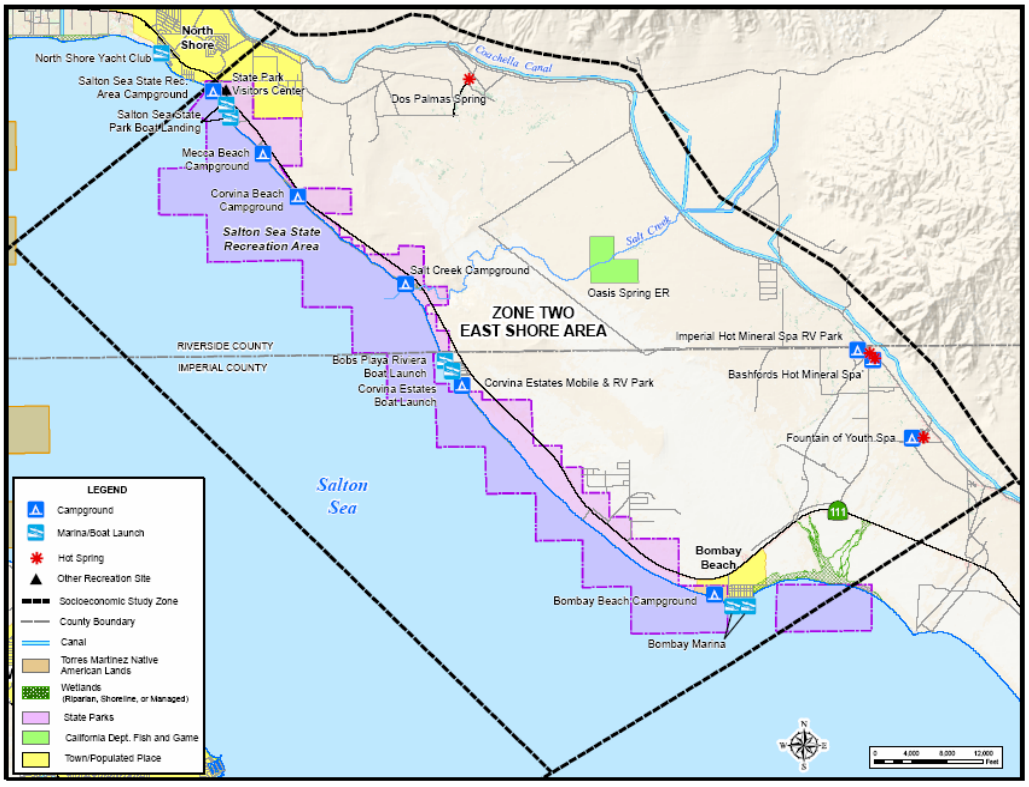


Figure 2-4. Map of Zone Two: The East Shore Area.

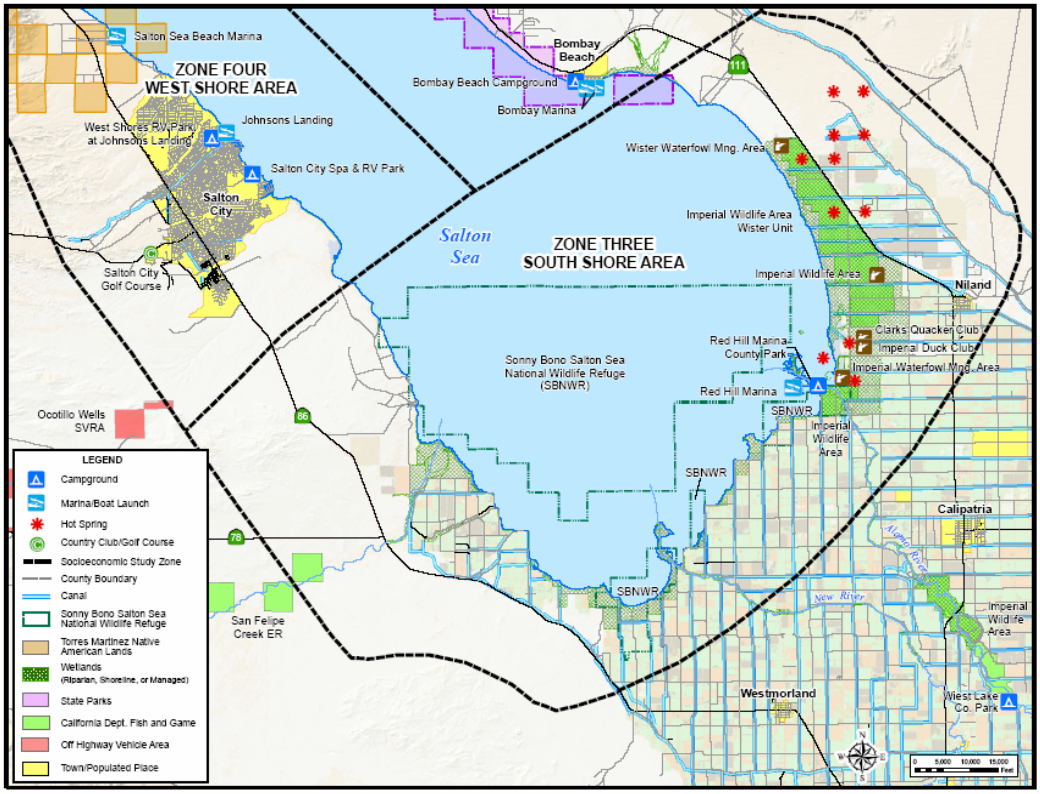


Figure 2-5: Map of Zone Three: The South Shore Area.

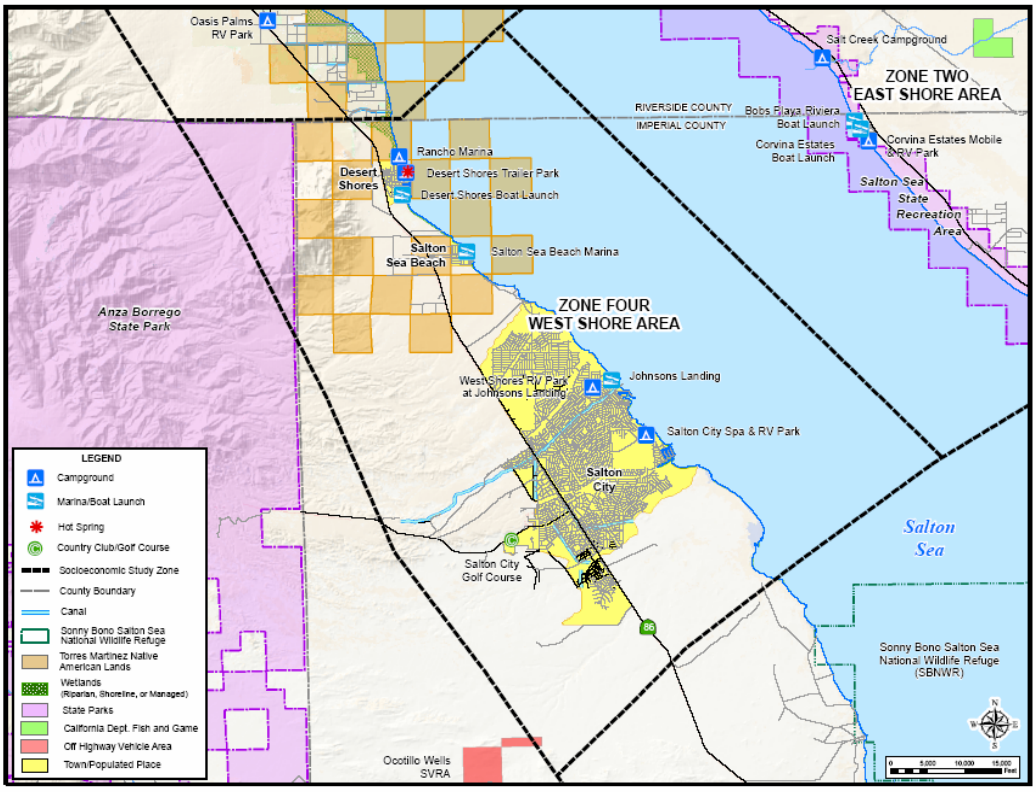


Figure 2-6: Map of Zone Four: The West Shore Area.

Zone One: The North Shore Area

The North Shore Area (Zone 1) (Figure 2-3) includes approximately 16.5 miles of Sea shoreline and stretches from the Riverside/Imperial County boundary on the west side, just north of Desert Shores around the north perimeter of the Sea, to Desert Beach along Highway 111. The relatively flat land is mostly in private ownership, with portions falling within Torres Martinez tribal land. The land is predominantly agricultural, with well-established irrigation systems supporting intensive crop and orchard production, including citrus, date, and vineyards at the northwest corner and row crops along the northeast shoreline. Public roads tend to be set back from the Sea in Zone 1, with an offset over two-miles on the west side, no public roads in the vicinity of the Whitewater River, and an approximate one-mile offset of Highway 111 along the northeast shore.

Due to the absence of public roads and the predominance of private ownership, there is limited public access in this zone, especially in the Whitewater River and delta area. There are some developed urban uses along Highway 111 with the residential pockets of Desert Camp, North Shore, Mortmar, and Desert Beach. Numerous private duck ponds are in the delta region of the Whitewater River.

Relatively high levels of wildlife habitat sensitivity can be assumed for the Whitewater delta area because of its inaccessibility and the converging freshwater to saltwater biomes. A significant characteristic of this zone is its locational relationship between the Coachella Valley development thrust and the Salton Sea.

Types of recreation uses associated with Zone 1 include hunting at the private duck ponds, offshore fishing, and boating. Under present ownership conditions, there is limited shore-related recreation use in the North Shore Area. The intensive agricultural uses with mature orchard canopies provide both aesthetic and possible future recreational opportunities, such as campgrounds or day-use areas. Wildlife habitat around the Whitewater River outflow offers wildlife viewing and photography opportunities. The prevalence of tribal lands could present recreation-related economic development opportunities.

Opportunities for future recreational development in the North Shore Zone could include educational/interpretive exhibits associated with the Torres-Martinez Indian Reservation, tribal gaming establishments, tribal resorts/marinas, private resorts/marinas, wetland and riparian restoration/creation associated with the Whitewater River, and the potential to create a multiple use biking/hiking trail around the Sea's perimeter, which would require cooperation of numerous agencies, entities, and stakeholders.

Zone Two: The East Shore Area

The East Shore Area (Zone 2) (Figure 2-4) includes approximately 17.5 miles of Sea shoreline and stretches from just east of Desert Beach at the north end, to Bombay Beach at the south end along Highway 111. Because of the proximity of Highway 111 to the Sea, low-growing desert scrub vegetation, and the relatively undifferentiated topography and gradual slopes, this zone affords wide-open views of the Sea and provides the best viewing opportunities to the Sea from public lands. This zone is also the first point of visual and physical access to the Sea from the north where the major nearby population centers are located.

Resort facilities in this zone are in various stages of disrepair. Sea frontage is almost entirely within state ownership, with the Salton Sea SRA being the primary presence. Thermal springs east of Highway 111 and north of Frink are used for recreational/health purposes. Habitat sensitivity is assumed to be lower within Zone 2 than portions of the North Shore Zone due to

less extensive riparian vegetation and greater public access. Both Sea-related and California low desert-associated habitats can be considered sensitive.

Recreation uses associated with Zone 2 include camping, Recreational Vehicle [RV] camping, power boating, sailing, PWC use, windsurfing, shore fishing, off-shore fishing, and sunbathing. The Salton Sea SRA provides the most extensive public access resulting in the heaviest overall use on the Sea. The Salton Sea SRA has five campgrounds (Headquarters, New Camp, Mecca Beach, Salt Creek, Bombay Beach) totaling approximately 1,600 campsites. The Headquarters Area provides 15 full hook-up sites, 25 developed campsites, and restrooms with electricity, running water, and hot showers. Mecca Beach Campground provides 4 full hook-up sites, 109 developed campsites, and restrooms with electricity, running water, and solar showers. The three remaining campgrounds provide undeveloped primitive camping with chemical toilets and central water. There are boat launching and mooring facilities at each of the five campgrounds. The SRA facility headquarters includes the additional features of a visitor center and day-use area. In addition, a day-use beach is located at the northern end of the SRA.

Records of public use of the Salton Sea SRA, including total numbers of visitors, total revenue, and spending per visitor, have been kept since 1972. Prior to official recording of the economic statistics, park staff estimated the historic peak seasonal use of the unit was approximately 660,000 visitors in 1961-62. Although recorded peak years for both visitation and revenue occurred in the early 1980s, the last three years reveal evidence of a resurgence in public attendance, with a doubling of the total number of visitors in that period to 275,000.

Private recreation facilities within this zone all show evidence of deferred maintenance and are non-operational. Bombay Beach, a recreation residential pocket of around 150 trailers, has been effectively cut off from the Sea due to the construction of a levee structure surrounding the residential area. The North Shore Yacht Club and Marina are unused.

Although evidence of necessary repairs exists, the state recreation area is still quite functional and attractive to visitors. Sea elevation rise has caused problems with some of the facilities and infrastructure including paving, picnic tables, and landscaped areas. One potential opportunity cited by park staff would be to shift the emphasis to interpretive-oriented facilities, such as wildlife viewing facilities (i.e., blinds), natural history, and historically and culturally focused interpretive elements. Sea level stabilization also would allow the state to apply for funding to begin improving boating facilities. Improvements to private recreation facilities within this zone are also assumed to be linked with stabilized Sea elevations and improved water quality.

Opportunities for future recreational development or enhancement in the East Shore Zone should ideally be compatible with the existing heavy use patterns of the SRA and could include interpretive exhibits/facilities and trail development at the SRA, potential for lake perimeter biking/hiking trail(s), wetland and riparian restoration/enhancement associated with Salt Creek, camping and trail development on BLM lands to the east and north of the Sea, further spa development, modification/movement of boat launch and marina facilities on private lands, and modification/movement/restoration of resort development on private lands.

Zone Three: The South Shore Area

The South Shore Area (Zone3) (Figure 2-5) includes approximately 41.3 miles of Sea shoreline and stretches from the Imperial County Niland facility area on the east side around the southern perimeter to just north of the Navy's Salton Sea Test Base on the southwest side of the Sea. The nearly flat land is fairly evenly divided between public and private ownership. Public lands can be grouped into three categories, state-owned and operated lands, such as the Imperial County Wildlife Area-Wister Unit, and federal lands split between the Sonny Bono Salton Sea National Wildlife Refuge, operated by the U.S. Fish and Wildlife Service [USFWS], and the Navy's Salton

Sea Test Base. The Salton Sea Test Base has been decommissioned and is being conveyed to other federal agencies for management.

The Salton Sea southern shore comprises the northern reach of the intensive Imperial Valley agricultural area. Irrigation water and drainage from the New River and the Alamo River result in a substantial freshwater riparian zone between the Sea and surrounding agricultural lands, resulting in the most extensive and rich wildlife habitat area of the Salton Sea. The greatest levels of wildlife habitat sensitivity occur in this zone of the Sea. In addition to the agricultural and wildlife preserve areas, other uses found in Zone 3 include geothermal hydroelectric facilities that, because of their vertical scale, tend to dominate the agricultural landscape. Public roads tend to be set back from the Sea in this zone, with typical setbacks of two or more miles on the west side, one or more miles offset adjacent to the Imperial Wildlife Unit, and very limited public roads along the southeastern margin of the Sea. Obsidian Butte, Red Island, and Mullet Island, unique volcanic landforms along the southeast margin, are in striking contrast with the predominantly flat landscape surrounding the Sea. The Imperial County recreation facility has been entirely abandoned due to rising water levels.

The types of recreation uses occurring in Zone 3 are strongly linked with the wildlife values associated with this area and include hunting, shoreline and offshore fishing, boating, photography, and wildlife viewing. The State Imperial Wildlife Area, operated by the California Department of Fish and Game [CDFG], has been maintained as a hunting, fishing, and passive recreation use area for nearly 50 years. Records kept since 1962 of the number of hunters and birds taken show a fairly constant pattern of usage. The peak year for hunters occurred during the 1970-1971 season, with 10,547 hunters registering that year. The lowest usage occurred during the 1992-1993 season, with 5,302 registered hunters.

The Sonny Bono Salton Sea National Wildlife Refuge consists of approximately 36,000 acres, 34,250 of which are inundated by the Sea, leaving 1,750 acres of agricultural fields, freshwater marsh, and riparian lands. This refuge is considered one of the premier wildlife habitats along the Pacific Flyway, with over 400 bird species recorded. Observation towers, viewing blinds, observation trails, and an interpretive center have been developed to facilitate public use of these resources. The prime season for wildlife viewing runs from October to March.

The Salton Sea Navy Test Base consists of 21,587 acres of land, two thirds of which is submerged by the Sea. Unlike the other portions of Zone 3, vegetation on this property is characterized by California low desert scrub (creosote, sage, and prosopis). A large area of active sand dunes covers much of the property. Numerous remnant structures, roads, and utilities remain on the property. The area has relatively high habitat values.

Opportunities for recreational development and enhancement in Zone 3 should focus on activities that are compatible with the extensive high quality wildlife habitats and more passive uses (bird watching, photography) of the state and federal lands. Opportunities include additional trail and bird watching facility (blinds) development, wetland and riparian restoration/enhancement associated with the New and Alamo Rivers, marsh restoration/development within current Sea boundary, preservation/enhancement of San Felipe Creek and marsh, educational/interpretive exhibits and facilities, potential for lake perimeter biking/hiking trail(s), additional boat launches primarily for non-motorized use, camping and trail development on former Navy Test Base lands, spa development on private lands, and nature resort development on private lands.

Zone Four: The West Shore Area

The West Shore Area (Zone 4) (Figure 2-6) includes 15 miles of shoreline from north of the Naval Test Base, to the intersection of the Riverside, San Diego, and Imperial County lines.

Extending west to the base of the Santa Rosa Mountains and paralleling Highway 86, Zone 4 includes most of the residential development around the Sea. Topography of this zone is characterized by a gradually sloping alluvial fan between the Sea and the boundary of Anza-Borrego State Park. Most properties are privately owned, with checkerboard sections of land to the north owned by the Torres-Martinez Tribe, interspersed with private agricultural holdings. Undeveloped residential lots appear on many maps but are identified on the ground only by the roads and utilities servicing them. Extending from Salton City to Borrego Springs, State Route 22 is a major recreational access corridor to the Sea.

The shoreline within Zone 4 is most heavily used for boating and fishing access. Public access to the shore can be attained via some dirt roads, but most of the recreating public uses the four boat ramps located in the various communities within this zone.

Potential exists, assuming infrastructure needs are met, for the development of approximately 20,000 residential lots within Zone 4. With the proximity to both the southern Coachella Valley and Borrego Springs, this area of the Sea seems the most suitable location for shoreline and near-shore development. Except for a few small shoreline nature trails, there are no significant wildlife viewing areas within this zone, nor is there significant suitable habitat to attract target species. With the existing infrastructure and location away from sensitive wildlife habitat, the communities of Desert Shores, Salton Sea Beach, and Salton City provide the basis for needed recreational facility redevelopment.

The types of recreation associated with Zone 4 include recreation rental housing, RV camping, shoreline fishing, boating (boat launching), sport fishing, sunbathing, hiking, and bird watching. Desert Shores, Salton Sea Beach, and Salton City all provide RV camping adjacent to the boat launching facilities and marinas within their respective communities. The few motels and RV campgrounds in the three major communities also provide accommodations for birders in early spring.

The remnants of closed and dilapidated resort structures and restaurants from the height of the area's popularity have a tendency to leave a negative impression on visitors. The potential for recreational development leading to enormous growth in recreational visitation and possible influx of private capital is excellent in this zone. The west shore has the beginnings of support facilities for recreation and marinas.

Opportunities for recreational development in the West Shore Zone could be the most lucrative and could include vacation and retirement residential development, development of additional camping areas, development/movement/restoration of marinas and resorts, development of a lake perimeter trail(s), spa development, educational/interpretive exhibits or facilities associated with the Torres-Martinez Indian Reservation, tribal gaming establishment(s), tribal resort or spa, and potential for a regional interpretive facility and conference center (i.e., Salton Sea Center).

2.2 METHODOLOGIES USED TO EVALUATE POTENTIAL RECREATION OPPORTUNITIES

2.2.1 Background

Potential recreation opportunities that could be implemented at the Salton Sea in conjunction with an ecosystem restoration scenario were identified for this evaluation from previously-conducted evaluations of restoration options, and from written and verbal surveys and feedback from local stakeholders and the public.

The condition of the Salton Sea ecosystem has been the subject of discussion for many years, with the past 10 years seeing significant local, State, and federal funding for evaluations of the

status and long-term health of the ecosystem, evaluations of a wide range of approaches to improving ecosystem conditions, and several structured attempts to develop and implement a program to address the situation.

In June 1993, the Imperial Irrigation District, Coachella Valley Water District, and Imperial and Riverside Counties formed the Authority. In August 1994, the Authority, U.S. Bureau of Reclamation [Reclamation], and the DWR signed an agreement that provided the basis for a cooperative effort to evaluate problems at the Sea. Under this agreement and subsequent amendments, several technical studies were completed including collecting localized weather data, modeling water currents, charting underwater topography, and evaluating potential methods of dike construction. In addition, a major effort was undertaken to identify and compile potential solutions to the Sea's problems. A succeeding agreement was also signed between the Authority and Reclamation to jointly develop feasibility engineering and environmental compliance for a salinity and water surface evaluation management project.

The Salton Sea Reclamation Act of 1998 (Public Law 105-372) directed the Secretary of the Interior, through Reclamation, to study options for managing the salinity and elevation of the Sea to preserve fish and wildlife health and to enhance opportunities for recreation use and economic development while continuing the Sea's use as a reservoir for irrigation drainage. Reporting requirements of the Act were met in January 2000, when Reclamation forwarded a draft Environmental Impact Statement/Environmental Impact Report [EIS/EIR], jointly prepared with the Authority, and several other reports to Congress. However, this document never went to a final EIS/EIR, and no Record of Decision was issued that would allow a formal project to proceed. The Authority proceeded on its own to further evaluate specific engineering and management approaches to achieving the goals of the joint study.

In January 2003, a status report was released by the Secretary of the Interior about the project, and in September of the same year, the Quantification Settlement Agreement [QSA] and associated legislation was passed in which the State of California accepted responsibilities for ecosystem restoration at the Sea. The legislation directed the DWR to prepare an ecosystem restoration study and programmatic environmental document by the end of 2006. This evaluation of recreation and economic opportunities will be provided to the DWR as input from the Authority on the evaluation of management approaches.

In the survey, ORATF members and the public indicated their prioritization regarding each listed activity by assigning a score between 0 and 10 (10 being most desirable) for each item. Surveys that were incomplete (i.e., respondent answered only some of the categories or respondent answered part of the survey) were counted as non-responsive for individual categories for activities/facilities/locations. This ensured the inclusion of the individual response for the categories which were completed by the respondent. These scores were then aggregated in an interactive spreadsheet at the public meetings, so that participants could immediately see the results of their scoring. Some minor modifications to scores were then made during the ensuing discussion as participants viewed the scoring results and provided additional input regarding preferred activities and facility types. The recommendations of the ORATF and the general public regarding locations of potential recreation activities and facilities were structured based on the discussion of four recreation study "Zones" of the Salton Sea, as discussed in Section 2.1.3.

2.2.2 Recreation Opportunities Survey - ORATF

A written Recreation Opportunities Survey (Appendix A) was developed and given to each ORATF member in order to formally develop recommendations regarding recreation

opportunities associated with an ecosystem restoration program. The survey asked each ORATF member to identify and prioritize recreation activities that they recommended to be implemented or expanded at the Salton Sea, the types of facilities that would be required to support those activities, and the general area of the Salton Sea where these opportunities could be implemented.

The preliminary listing of recreation activity and facility priorities that would be considered in the survey are presented in Section 2.3. The summarized results of the recreation activities and facilities survey are presented in Section 2.4. The summarized results of the preferred location of activity/facility are presented in Section 2.5. Tabulated survey results are available for review in Appendix B.

2.2.3 Recreation Opportunities Survey – Stakeholder Distribution

At the request of the Advisory Committee of the DWR's Salton Sea Restoration program, the Recreation Opportunities Survey (Appendix A) was made available to a wider distribution of stakeholders in the Salton Sea restoration effort. In May 2005, the Authority and DWR made the Recreation Opportunities Survey available by email and website to their respective mailing lists of persons and organizations that had previously expressed interest in Salton Sea issues. Feedback on the listing presented in the survey form was also solicited from the public at two meetings held on April 28, 2005 in Desert Shores and Calipatria (Section 1.4).

The preliminary listing of recreation activity and facility priorities that would be considered in the survey are presented in Section 2.3. The summarized results of the recreation activities and facilities survey are presented in Section 2.4. The summarized results of the preferred location of activity/facility are presented in Section 2.5. Tabulated survey results are available for review in Appendix B.

2.3 RECREATION OPPORTUNITIES IDENTIFIED

2.3.1 Background

The Authority's evaluation process for ecosystem restoration and economic development programs following the issuance of the Draft EIS/EIR (2000) was directed at identifying and implementing a self-supporting restoration solution that would benefit local communities and users. As part of the process of involving stakeholders in the development and implementation of a project that could be supported locally, the ORATF was formed as an advisory body, at that time made up primarily of representatives of stakeholder groups in Imperial County, with some representation from other stakeholder organizations in Riverside County. The ORATF was asked to make recommendations regarding recreation potential and opportunities under a restoration scenario.

Major topics addressed in their recommendations, issued in June 2004 (SSA 2004), included:

- extension of the New and Alamo Rivers, and wetlands creation in those areas;
- freshwater lakes;
- a marine lake in a sequestered North Basin;
- shallow water ponds;
- agriculture;
- geothermal resources;
- OHV use; and

- hunting and fishing.

This short list resulting from the ORATF's deliberation of issues was used as the basis for building the list of recreation opportunities that will be evaluated in this assessment.

As was discussed in Section 1.4, the ORATF was brought back together for this assessment, and its membership augmented with representatives of additional stakeholders from both Riverside and Imperial Counties. The reconstituted ORATF membership was detailed in Table 1.4-1.

2.3.2 Listing of Potential Recreation Opportunities

The range of recreation opportunities evaluated in this assessment was developed from the original ORATF issues listing (Section 2.3.1); from information on historic recreation uses at the Salton Sea from previous environmental documents, historical accounts, media descriptions, and anecdotal information; and from information regarding recreation opportunities at other recreational lakes in Southern California with similar physical characteristics and uses.

The final listing of recreation activities and potential facilities included in the ORATF survey are presented below in Table 2-1. A total of 20 activities in nine major categories were presented for consideration by the ORATF and the public.

The survey form also provided an opportunity for the reviewers to suggest additional recreational activities and facilities that should be considered for implementation. Although survey respondents were given an opportunity to add facilities/activities to survey forms, written comments were ranked in the overall evaluation; therefore, suggested facilities/activities that were written in were not evaluated by survey respondents directly.

Table 2-1. Recreation Activities and Types of Facilities Considered in the ORATF Survey.

Potential Recreation Activities	Potential Recreation Facilities
Boating	Boating
• Kayaking	• Kayaking - designated area
• Power boating/Sailboating	• Power boating/Sailboating - improve existing marina/launch facilities
	• Power boating/Sailboating - add new marina/launch facilities
Camping	Camping
• Guest rentals	• Guest rentals
• RVs	• RV hookups
• Tent	• Tent - sanitation facilities
Fishing	Fishing
• Freshwater	• Freshwater - lake(s)
• Marine fishery	• Marine fishery - improved shore access (dikes, jetties, etc.)
	• Marine fishery - ecological refuge (low disturbance, no vehicles, etc.)
OHV Use	OHV Use Area(s)
Resort Activities	Resort Activities
• Gaming	• Resort/Gaming facilities
• Golf	• Resort/Golf course(s)
Trail-related	Trail-related
• Biking	• Biking trails
• Hiking	• Hiking trails

• Horseback riding	• Horseback riding trails
Wildlife-related • Bird watching/Photography • Hunting	Wildlife-related • Bird watching/Photography - designated areas/observation facilities • Hunting - designated areas
Water Contact • Personal watercraft • Swimming/sunbathing • Windsurfing	Water Contact • Personal watercraft - designated area • Swimming/sunbathing - designated area • Windsurfing – designated area
Other • Photography-general • Skydiving	Other • Photography-general [no specific facilities required] • Skydiving area

2.4 PRIORITIZATION OF FUTURE POTENTIAL RECREATION FACILITIES AND ACTIVITIES

2.4.1 Background

The results of the feedback received from the ORATF recreation survey, public input at the public meetings held in April, and responses to the wider circulation of the recreation survey to Authority and DWR distribution lists determined the overall list of recreation activities and facilities considered.

ORATF Survey Feedback

There was considerable enthusiasm among survey respondents for a wide range of recreation activities in the Salton Sea area. Some of the favored activities have an historic basis of popularity at the Salton Sea, including boating, fishing, hunting, bird watching, and camping. Other supported activities were more recently implemented at the Salton Sea, such as hiking and biking. Other activities that were popular write-in responses were cultural tourism and geocaching. Results received from the ORATF on the Recreation Opportunities Survey are presented in Figure 2-7.

Resort activities (gaming and golf) were of lower priority to many of the ORATF participants. Resort/Gaming was acknowledged to most likely be restricted to tribal lands. Concerns regarding activities with high long-term water use demands affected enthusiasm for resort/golf and other similar activities. Although, this activity ranked among the lowest ranked activities, it was carried forward into the evaluation because it is likely that proponents will look to implement a resort/gaming concept on tribal lands in Zone 1 at the Salton Sea.

Recommendations and prioritization for the types of facilities needed to support recreation activities that emerged from the survey results and public meetings generally followed the recommendations regarding "activity" priorities. This is an expected result, as an increase in the usage rates at the Salton Sea of any type of recreational activity would lead to the need for improved or new facilities to support those activities.

Survey responses regarding potential locations for new/improved facilities favored areas where existing facilities or historic activities have been located. These results reflected general views of activity suitability with historic "land use and habitat" type – "wildlife"-related activities were favored in zones with historic wetlands areas (Zone 1: north, Zone 3: south, where existing major rivers flowing into the Sea are located; Zone 1-Whitewater River; Zone 3-New and Alamo

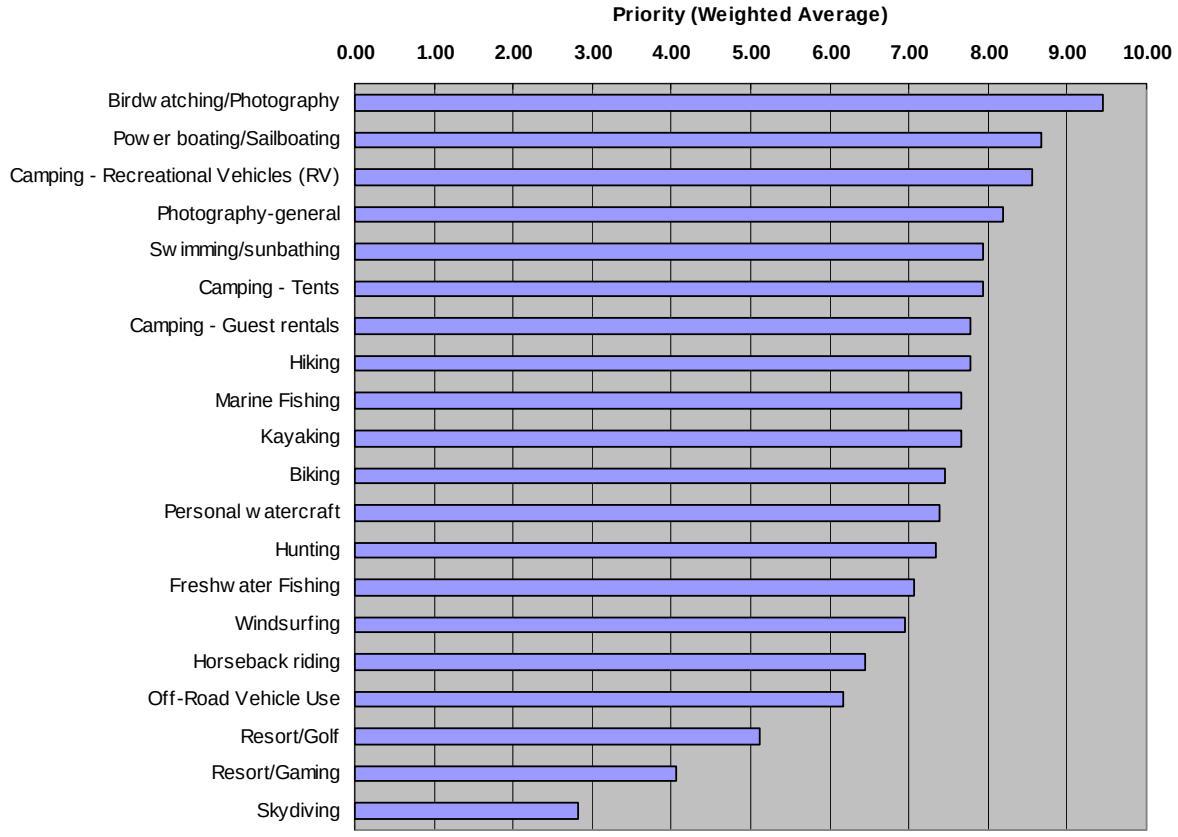


Figure 2-7. Ranking of recreational activities from Recreation Opportunities Surveys submitted by ORATF.

Rivers). Boating and water contact activities were favored in Zones 2, 3, and 4. Camping and fishing are favored in Zones 1, 2, and 3.

Resorts were favored in the northern zone (Zone 1, gaming is equated with Tribal land ownership). Zone 1 also has perceived easier access to water sources (the Palm Springs-area wastewater treatment facilities, and Coachella Valley Water District [CVWD] water supplies).

While OHV use received a number of very negative comments and some low scores, those commenting favored locating this activity in the southwest portion of the study area. This area has the largest areas of undeveloped land (Zone 3).

Stakeholder Survey Feedback

Members of the general public were invited to participate in completing the survey. Surveys were emailed, mailed, and available at public meetings. Seventy-eight (78) responses were received. Bird watching and photography received an overwhelmingly positive support from the group, ranked 1st out of 20. Respondents favored less invasive activities such as hiking (3rd out of 20) and tent camping (4th out of 20). These activities do not require extensive infrastructure to implement.

Survey respondents ranked skydiving as 18th out of 20 potential/existing activities. Reoccurring comments were negative towards OHV, PWC, and Resort activities (gaming and golf). All of these activities ranked below 15 out of 20. Respondents were adamant regarding their desire not

to allow such activities at the Sea. Many stated these activities were too destructive and are not in-line with the active restoration efforts occurring at the Sea.

Results received on the Recreation Opportunities Survey from the stakeholders and general public are presented in Figure 2-8.

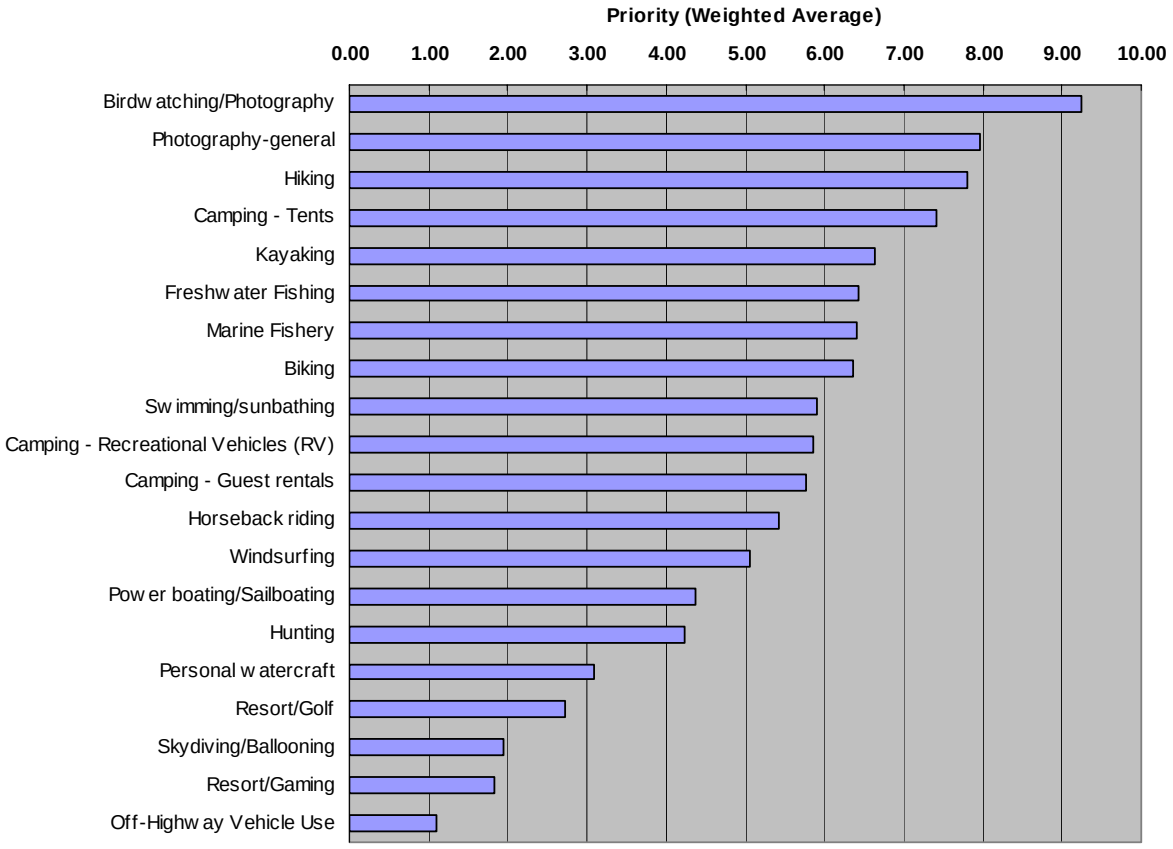


Figure 2-8. Ranking of recreational activities from Recreation Opportunities Surveys submitted by stakeholders and the general public.

2.4.2 Recreational Opportunities Considered

This section presents the categories of potential activities/facilities that were taken forward in this opportunities assessment, based on ORATF survey results, public meetings, stakeholder and mailing list survey results, and from historical information on recreation activities at the Salton Sea.

Boating

The key issues that would have to be resolved to enhance the quality and quantity of boating in the Sea are to improve the water quality sufficient to eliminate most or all noxious odors and algal growth, and stabilize the lake level sufficient to allow development of or continued operation of boat launch and marina facilities. Enhancement of motorized boating is likely to be most appropriate in the northern half of the Sea, whereas enhancement of kayaking and other non-motorized boating opportunities could be improved by enhancing wildlife habitats and boat launch facilities in the southern half of the Sea. Power boating ideally needs larger areas in which

to successfully operate, as activities in the future may include racing, water skiing, etc. Sailboating also needs fairly large areas in which to operate; therefore, consideration must be given to appropriately designating motorized and non-motorized boating areas, to avoid conflicts. Kayaking can be located flexibly around the lake under a variety of conditions. Launching is simple, but kayakers may prefer areas with less wake turbulence, pointing to the need for protected or restricted use areas, or areas where kayaking can be combined with camping, bird watching, and other low disturbance, relatively passive activities.

The Sea could also serve as a venue for houseboating. Houseboating on the Sea is somewhat different compared to other popular areas such as Lake Powell/Lake Mead (topography, secluded coves) and the Sacramento River delta (isolation among the scattered small islands). Demand for this activity will need to be carefully considered, given the capital cost involved in marina development and other facilities required to adequately manage this activity.

Camping

Camping is one of the more popular remaining recreational pursuits at the Sea. Camping would be enhanced further by improving water quality sufficient to eliminate most or all noxious odors and algal growth and fish/bird kills to make shoreline camping more attractive. Campers will be drawn to other recreational opportunities such as OHV use, bird watching, wilderness, boating/fishing and additional camping facilities should be designed to accommodate or accent the various other types of activities. RV camping is still popular. Guest rentals may include cottages and motel units.

Fishing

The key issues facing fishing are high salinity, high nutrients, agal blooms, low dissolved oxygen [DO] concentrations and subsequent fish kills. In addition, to these real environmental issues, there is a false public perception that the lake is unsafe, given years of poor publicity regarding fish kills, etc. The salinity of the sea continues to rise and although salt tolerant fish species continue to thrive in the lake it is unknown how long this trend will continue. The reduction of the salinity of the lake to ocean water levels will ensure water quality conditions to support a productive population of fish in the lake. Increasing nutrients in the sea have spawned algal blooms. In large abundance, these microorganisms die and decompose, resulting in the production of obnoxious odors over extensive areas of the Sea (US DOI 1970). In addition to the odors, the decay of organic matter in combination with high summer temperatures causes the reduction of DO, creating conditions that suffocate fish and mass fish kills occur (SSA 2000).

The issue of salinity is most relevant to fishing; whereas most other recreational pursuits can be conducted regardless of salinity. If water quality conditions were suitable to sustain a fishery, then additional boat launch/marinas and shoreline or jetty/pier access points would further enhance fishing. Fishing activities would likely be devoted both to the historically-active marine fishery in deeper and more saline portions of the Sea, and freshwater fishing associated with the wetlands areas and rivers at the margins of the Sea.

Off-Highway Vehicle Use

OHV use has not been significantly affected by Salton Sea conditions, other than by the lack of amenities such as camping, restaurants, etc. OHV use can be further enhanced by developing additional areas for their use, and by developing additional camping areas and development. This activity by its nature entails the designation of fairly large areas for its implementation. Additionally, this activity may generate quantities of dust and emissions that need to be considered in light of the attainment status of the Salton Sea area.

Resorts and Spas

In the 1980s, rising water levels encroached upon prime shoreline locations, affecting existing structures and causing business owners to abandon or scale back their operations (USBR 1999). Maintaining stable water levels would provide a consistent and predictable level on which development and current recreation facilities could be built. In addition, a number of resorts and restaurants, especially in the west shore area, are closed. This gives a poor public perception of the viability and desirability of the area.

Most critical to the enhancement and development of resorts and spas would be improved water quality conditions and a more stable lake level. Resort and spa development may be most appropriate in the West and North Shore zones. Resorts with gaming facilities are currently assumed to be most likely developed on tribal lands on the northwestern shore of the Sea. Some concepts have included building nearshore peninsulas and islands to increase the length of shoreline available for these types of facilities, for use in ancillary recreation activities, ambiance for quest facilities, etc. Resort golf facilities would require designation of fairly large areas of land, most likely privately owned, as well as significant quantities of water, although such facilities could cooperatively use treated wastewater generated by other types of activities/facilities located in the Salton Sea area.

Trail-related (Biking, Hiking, Horseback riding)

Hiking has continued to be popular. Hiking would be most facilitated by the development of additional trails and access locations and would also be enhanced by additional wildlife habitat restoration/creation. Shoreline hiking would be enhanced by water quality improvements sufficient to reduce or eliminate most noxious odors and fish/bird kills.

Wildlife-related (Bird watching, Hunting)

As the Salton Sea is an important part of the Pacific Flyway, the Sonny Bono Salton Sea NWR is considered one of the premier bird-watching locations in the nation. This recreation area draws the most consistent group of recreationists to the Salton Sea. The most critical issues to address to enhance and continue wildlife/bird watching opportunities are to reduce or eliminate bird kills and provide additional opportunities either through wetland/riparian restoration and expansion and/or additional trail and other facility development (observation areas, towers, etc.).

Hunting for waterfowl, pheasants, and small mammals occurs primarily in the South Shore zone. The most critical issues for the continuation and enhancement of hunting would be to provide additional wildlife habitat and provide facilities and access to suitable hunting locations. Hunting would be an activity that requires designated areas and controlled access for safety purposes.

Water Contact (Personal Watercraft, Swimming/Sunbathing, Windsurfing)

Improvement of water quality is the most important issue for the enhancement of water contact sports. Algal blooms in the shallow waters have discouraged human contact with the water. In addition, publicity about the New River, as "the most polluted waterway in the nation" has also contributed to the declining public perception of the Sea. The New River flows from Mexico and terminates in the Sea. At the International boarder crossing the flow consists mainly of partially treated and raw sewage, agricultural drainage water, and power plant effluent. It also contains detergents, pesticides, and other industrial, municipal, and agricultural chemicals. By the time the River reaches the Sea, the water quality is improved through natural cleansing that occurs in the intervening 50 miles (USBR 1999), but the perception of bad water quality still exists.

A number of efforts are underway to reverse the pattern of deteriorating water quality at the Sea. Improved treatment programs for flows in the New and Alamo rivers are being implemented. Wetlands creation efforts on both rivers have begun, and more are planned – these programs have multiple benefits, including improved water quality, reduction of pollutant inflows, and improved wildlife habitat.

Overall, it may still be most appropriate to provide the majority of any water contact activities and facilities and access in the northern half of the Sea, along with boating and fishing and resort development.

Other Activities/Facilities (General photography, Skydiving, Cultural tourism, Geocaching)

Photography associated with wildlife-related activities, and especially bird watching, was discussed above. Opportunities for general photography exist around the Sea in terms of water-related vistas and activities, nearby steep topography and geologic features of interest, abundant natural sunshine and generally clear weather, a variety of environmental habitat types (i.e., desert, marsh/wetland, open water, dunes, shoreline, etc.), and the potential for a wide variety of recreation activities, as discussed in this evaluation. Opportunities for photography would be enhanced by improved water quality and wildlife habitats, contributing to the range of activities discussed above.

Skydiving is not an activity presently offered at the Sea. Survey respondents ranked this activity 19th of 20 activities. Due to this low score, skydiving was not evaluated further to determine key issues and implementation costs. This activity may be re-evaluated at a future date if the Salton Sea users enable the evaluation through an expression of support for the activity.

The Salton Sea area has a varied background of hydrology, geology, ecosystems, and historic and prehistoric use patterns by humans. This range of past and present environments provides interest to a variety of current and potential visitors. While some effort has been made at the private, state, and federal levels to provide some of these types of information to visitors, cultural and historic resource use/interpretation would be enhanced by developing additional facilities. Cultural tourism was a popular write-in category amongst ORATF members. This activity was included in the evaluation due to economic considerations associated with the development of such facilities.

Another popular write-in category is geocahing. Geocaching is a relatively new activity enabled by recent advances in computer technology and the ability to determine a location within a few feet through global positioning technology. This activity combines the activities of detective work, hiking and camping, and photography, and can be either a short-term or an extended activity. The activity is not tied to any specific type of facilities, but is ancillary to many of the activities/facilities discussed above. It is not evaluated as a separate activity, but may be implemented and encouraged through the development of interpretive/cultural sites.

2.4.3 Evaluation of Recreational Priorities

ORATF Survey Results

The initial information for this section comes from a combination of potential recreation activities and facilities available or required to support that list of activities. The listing of activities will be prioritized based on the results of the ORATF survey and input received at public meetings. Facilities required to support these activities will be dependent on the relative rankings of the activities and the nature of facilities required for each activity.

Potential recreation activities are presented below in the order of "priority" as a result of the recreation survey and public and stakeholder feedback. A total of 18 survey responses were used to develop the ranking.

1. Bird watching/photography
2. Power boating/Sailboating
3. Camping- Recreational Vehicles [RVs]
4. Photography- General
5. Swimming/Sunbathing
6. Camping- Tents
7. Camping- Guest Rentals
8. Hiking
9. Fishing (marine fishery)
10. Boating (kayaking)
11. Biking
12. Personal Water Craft [PWC]
13. Hunting
14. Fishing (freshwater fishery)
15. Windsurfing
16. Horseback Riding
17. Off-Highway Vehicle [OHV] Use
18. Resort- Golf
19. Resort- Gaming
20. Skydiving

Stakeholder Survey Results

Potential recreation activities are presented below in the order of "priority" in responses to the recreation survey by the stakeholder distribution. A total of 78 responses were received by fax and email as a result of the distribution of the Recreation Opportunities Survey to stakeholders in the Salton Sea restoration effort.

1. Bird watching/photography
2. General photography
3. Hiking
4. Camping - Tents
5. Boating (kayaking)
6. Fishing (freshwater fishery)
7. Fishing (marine fishery)
8. Biking
9. Swimming/Sunbathing
10. Camping- RVs
11. Camping- Guest Rentals
12. Horseback Riding
13. Windsurfing
14. Power boating/Sailboating
15. Hunting
16. PWC

17. Resort-Golf
18. Skydiving/Ballooning
19. Resort-Gaming
20. OHV Use

Combined Survey Results

Potential recreation activities are presented below in the order of "priority" as a result of combining the results of the recreation survey by both the ORATF and stakeholder feedback. Ninety-six (96) survey respondents were counted amongst the two groups.

1. Bird watching/Photography
2. Power boating/Sailboating
3. Photography-general
4. Hiking
5. Camping - Tents
6. Freshwater Fishery
7. Kayaking
8. Marine Fishery
9. Biking
10. Camping - RVs
11. Swimming/Sunbathing
12. Camping – Guest Rentals
13. Horseback Riding
14. Windsurfing
15. PWC
16. Hunting
17. Resort - Golf
18. Resort - Gaming
19. Skydiving
20. OHV Use

Respondents were given the opportunity to add activities to be considered for implementation. Eighteen (18) activities were written in. Amongst the most popular activities listed were ballooning/kite surfing, geocaching, cultural tourism, and ultralight/parasailing. The others mentioned include astronomy education, conservation exhibits, interpretive trails/observation areas, outdoor gathering space/amphitheater eco-education camp, geothermal facility tours, Peg Leg mine tours, riffle range, rock hounding, and skeet/trap shooting. These activities were note evaluated by the group and therefore are not included in the activity ranking. These activities may be evaluated and implemented as Sea restoration continues to improve the user support for such activities. The combined results of the two surveys were used in the relative ranked position of each type of activity in the discussions of Recreation Opportunities, Conceptual Plans, and Implementation Strategies in Section 2.5.

2.4.4 Issues Affecting Future Direction

There are a number of issues that could affect the prioritization of recreation activities/facilities and other information presented in Section 2.5. An initial list of issues, as sent to DWR in a draft memo on April 1, 2005, included the following categories:

- General Recreational Issues
  - regional needs;
  - the number, size, and location of existing facilities and the capacities for expanded or new facilities;
  - partnerships for financing, construction, operating and maintaining the facilities; and
  - local and regional attitudes regarding possible restoration plans.
- Issues Related To Lake Characteristics
  - importance of a stable shoreline;
  - importance of salinity control;
  - importance of water quality improvement and control; and
  - importance of odor control.
- Issues Related To Facility Characteristics
  - areas must be designated for use;
  - area requirements;
  - need for access to lake shoreline;
  - need for dust control;
  - need for low-wake areas;
  - need for restricted access (safety); and
  - likely restricted access to Tribal lands.
- Issues Related To Facility Requirements
  - compatibility with other uses;
  - need for improved public services;
  - need for improved transportation infrastructure;
  - need for significant capital investment to be successful;
  - ROI for recreation type;
  - significant water supply requirements; and
  - success dependent on the maturity of location (habitat, etc).

Many of the recreation opportunities discussed in this evaluation would be dependent on certain restoration features to be successful.

Annual Capacity Projections

Annual capacity projection numbers were estimated for a restored Salton Sea by analyzing three primary sources of data: 1) recreational use at Southern California lakes with similar recreational opportunities, 2) on-site interviews with facilities managers and recreational visitors, and 3) information provided through surveys. The two lakes used to estimate annual capacity projections are Lake Arrowhead and Lake Havasu. Information obtained about these lakes is provided in Appendix C. Each of these lakes provide similar recreational opportunities. However, all are smaller than the Salton Sea, which resulted in the determination of the annual

capacity projections via a comparative analysis of water surface area, scaled on capacity versus surface area.

Compliance with the Regional Basin Plan

Compliance with the beneficial uses of the Salton Sea as identified in the Regional Water Quality Control Board's Water Quality Control Plan for Colorado River Basin Region 7 (Basin Plan) should be considered in planning future recreational activities. The Basin Plan includes water contact and non-water contact as identified beneficial uses on the Sea. Excerpts from the Basin Plan relevant to the Salton Sea are provided in Appendix D.

2.5 RECREATION OPPORTUNITIES, CONCEPTUAL PLANS, AND IMPLEMENTATION STRATEGIES

This section presents conceptual plans and implementation strategies for the recreation activities and facilities identified by historic uses at the Salton Sea, and by responses to the recreation survey conducted by the Authority with the ORATF and interested stakeholders (Section 2.4).

Recreation opportunities discussed and evaluated in this section were introduced in Section 2.3.2. The discussion of recreation opportunities includes the following activities and associated facilities:

- power boating/sailboating,
- kayaking,
- guest rentals,
- RV camping,
- tent camping,
- freshwater fishing,
- marine fishing,
- OHV use,
- resort gaming,
- resort golf,
- biking,
- hiking,
- horseback riding,
- bird watching/photography,
- hunting,
- PWC,
- swimming/sunbathing,
- windsurfing,
- general photography, and
- cultural tourism (exhibits, museums, and items or objects of interest) .

These recreation topics are addressed in the order in which they appeared in the recreation survey. Skydiving activities were dropped from the analysis due to low support from survey respondents. The category cultural tourism was added to the recreation opportunity analysis

based on notes and discussions from feedback received at the public meetings held in the area of the Sea in April 2005.

For each recreation topic, the following discussion is provided:

- a general discussion of the history of the activity at the Salton Sea and at similar regional water recreation venues,
- the status and capacity of existing facilities at the Sea to support the activity and discussion of activities based upon restoration of the Sea,
- potential future facilities and capacity that would be needed to meet anticipated recreation demand based upon a comparative lake analysis,
- recommendations for implementation of facilities at the Sea for this recreation activity, and where facilities might be located,
- the infrastructure requirements to support and implement the recommended facilities, and
- the key steps and strategies and factors required for implementation

A summary table of the facility recommendations and implementation steps and strategies is also provided for each activity type.

2.5.1 Boating

Boating activities include power boating/sailboating and kayaking (non-motorized boating). The discussion of houseboating has been included in this section due to the similarities of infrastructure required to support boating and houseboating activities.

Power boating/Sailboating/Houseboating

Power boating and sailboating is differentiated from other boating activities (kayaking) by the need for launch facilities (ramp), docks/slips for tying up and mooring, and other relatively heavy infrastructure needed to support this type of activity on a large scale.

Power boating is currently popular at many similar lake facilities in Southern California, including Lake Perris, Lake Elsinore, and Lake Havasu. Each of these lakes enjoys steady use by motorized boaters, with peak usage coming on holiday weekends and summer periods. The Sea has approximately 10 times the surface area of Lake Havasu, but only one-fifth the shoreline length, so there is plenty of area for users once out on the lake, but the availability of local on-water storage at the Sea will be reduced, compared to Lake Havasu, by these conditions. From this standpoint, the Sea is similar to local lakes where motorized boating is popular, such as Lake Perris and Lake Elsinore. Each of these lakes has less on-water storage available. Most users bring their boats on trailers and launch for one-day activities. The projected capacity of the Sea is 2.4 to 60 million people per year (Appendix C).

Houseboating is very popular at other lakes in Southern California, Nevada and Utah, such as Lake Havasu, Lake Mead, and Lake Powell. Houseboating typically occurs on weekends and for week-long periods during most of the year. Lake Havasu has a much smaller surface area than the Salton Sea, but more that 400 shoreline miles. Lake Mead has approximately 500 miles of shoreline. The Salton Sea is much less likely to become a popular houseboating destination because it does not have the long shoreline and numerous scenic coves and inlets that Lake Havasu, Mead and Powell have. The high salinity will also require significant on-going maintenance of houseboats. However, there is some limited potential for houseboating, particularly associated with fishing. It is not known what capacity there would be for houseboat

use, but if 2 houseboat rental facilities were developed, it might be reasonable for about 144 houseboats to be available for rental at any given time (Appendix C).

Impacts of Restoration on Power boating/Saliboating/Houseboating

Motorized boating has long history at the Salton Sea. Motorized boating use has been reduced over the past ten years by deteriorating water quality conditions, fluctuating water levels in the Sea, and as a result of the condition of existing launch facilities and support infrastructure. A chicken-and-egg argument can be made for the decrease in boating use being a factor in existing facilities not being maintained and upgraded. As discussed in Section 2.1.2, there are eight existing launch areas.

Restoration of the Salton Sea would open up new opportunities for motorized boating use by improving water quality and stabilizing Sea levels. This increased use would lead to the need for restoring existing launch facilities and expanding existing, and or building additional facilities to meet anticipated demand. The reasonable facilities capacity suggests the Sea can support 8 existing ramps/marinas and 12 new ramps/marinas to meet projected annual user capacity (Appendix C). It is likely that future use at the Sea will involve more day use and boats brought by users, as marina development will be constrained by shoreline availability and land use restrictions. Marina use will also be lower than in similar use areas due to the higher water salinity and attendant maintenance costs at the Salton Sea.

Activity/Facility Recommendations – Power Boating/Sailboating/Houseboating

Recreation opportunities at the Salton Sea for power boating and sailboating can be implemented through improving existing launch facilities/marinas, and through building new launch facilities/marinas. These types of facilities can vary in size, depending on use levels, land availability, access, and economic viability. Houseboat rentals would require marina and maintenance facilities and water access.

The results of the recreation opportunities survey conducted for this evaluation, combined with information regarding historic and existing facilities for this type of activity, indicate that the following zones are most appropriate for these types of launch/marina facilities: rehabilitation and expansion of existing facilities, and new facilities constructed in the East [Zone 2] and West [Zone 4].

Infrastructure Requirements – Power Boating/Sailboating/Houseboating

Infrastructure requirements for this activity/facility include the following: parking areas; ingress/egress areas; areas for storage, repair, and maintenance facilities; utilities (e.g., power, water, sewer, waste disposal, communications); provisions; and safety equipment and facilities. Larger power boats ands sailboats on trailers require substantial areas for ingress/egress, maneuvering, launching, and parking. On the eastern [Zone 2] and southern [Zone 3] sides of the Sea, improvements to existing major roadways and routes from these roadways to the Sea will likely be necessary to accommodate increased traffic volume and the size of the vehicle/trailer combinations associated with this type of recreation. The existing two-lane highway (or less) may not be able to accommodate these vehicles. These recreation opportunities also require access to the shoreline of the Sea. Physical requirements for the launch facilities include constructed concrete ramps, piers/docks for mooring and tie-ups, slips for long-term mooring and storage, maintenance/fuel facilities to service these vessels (and the towing vehicles), general storage, and paved parking areas. Substantial pier/jetty construction and shoreline hardening would likely be required to protect the facilities from wave action and erosion.

Key Steps Required for Implementation - Power boating/Sailboating

The key steps required to implement power boating and sailboating recreation opportunities are summarized in Table 2.5-1, and include the following:

- Upgrade existing facilities – existing launch areas/marinas have not been maintained at a level that will support increased use. These facilities will need to be rehabilitated or rebuilt.
- Identify locations for new facilities – additional launch/marina locations are expected to be required to meet projected recreation needs. Siting of these facilities needs to consider shoreline access, land use, and ownership. Siting of houseboat rentals should be in proximity to potential scenic areas or high quality fishing.
- Build primary and support infrastructure – new facilities will need to be constructed. Support infrastructure for both upgraded and new facilities, especially utilities, will need to be identified and constructed.
- Improve transportation network – especially on the east and south shores of the Sea, existing highways and access roads will be hard-pressed to support large trailered power boats and sailboats. Widening of these roads and provision of adequate ingress/egress, parking, and maneuvering areas is required to support increased use levels.
- Implement control, monitoring, and safety systems – multiple uses of the Sea will entail the need to provide appropriate signage, oversight, training, and safety services to ensure public safety and make the recreation experience safe and enjoyable. Patrol and search-and-rescue services will also likely be required.
- Substantial capital cost, planning, and construction requirements mean that these types of facilities will have long lead times. Implementation of these types of facilities will most likely occur after restoration is in place and the Sea condition is demonstrably improved.

Implementation Strategies and Factors - Power boating/Sailboating

The strategies and factors required to implement power boating and sailboating recreation opportunities are summarized in Table 2.5-1, and include the following:

- Ownership/Responsibility – Ownership and construction of new facilities is likely to be private, because of the substantial capital requirements involved with building such a facility. Federal, state, or municipal recreation areas may refurbish existing facilities. This activity requires water access.
- Management Approach – These facilities would likely have private management for the private facilities, and would be publicly-managed in federal, state, or municipal recreation areas, unless the management responsibility is contracted to a private firm. Onsite management and provision of safety/medical services likely required for any of these facilities to ensure public safety and make the recreation experience safe and enjoyable.
- Financing - Private facilities would be privately financed. The development/improvement of public facilities would likely be constrained by capital cost availability, given the status of public budgets in the immediate past. Both public and private types of facilities would have substantial initial capital requirements; both types would likely have user fees (launch fees, moorage fees, lake use fees, etc.) as a funding stream for cash flow to support operations and maintenance [O&M] costs.

- Environmental Considerations - Extensive facility construction would be required for this activity. Shoreline and nearshore modifications and dredging, excavation, and fill of material would be required to construct the primary layout of the marina, piers, launch facilities, and access to the Sea. Construction would involve the placement of piers, breakwaters, and jettys. It would include the widening and improvement of access roadways to reach the facility. Improvement or installation of utilities (power, water, sewer, waste handling, and communications) will be required in almost all cases, as existing facility support is outdated and likely not sized to support assumed demands. Storage facilities would be required for fuel, equipment, provisions, maintenance and safety equipment. Areas would also need to be designated for maintenance, cleanup, parking, and ingress/egress.
- Physical Factors – The construction may involve fixed or floating pier structures and docks. Floating docks on piers would give the facility more flexibility compared to fixed structures, if Sea levels continue to fall in the future. Safety requires the physical separation of major use activities (power boats, sailboats, kayaks, etc.), requiring marked charts, signage, navigation buoys, medical facilities, and search/rescuer station/vessels, to ensure public safety and make the recreation experience safe and enjoyable. Infrastructure requirements for the marinas will take up large areas of land, both along the ingress/egress corridors and around the main facilities. On the Sea, power boating and sailboating both require large areas in which to operate; these designated areas may need to be located away from other non-compatible uses such as hunting, bird watching, and kayaking.
- Social/Economic Factors – A basic boat launch facility with small piers may have a cost range of $100,000 to $500,000. Major marina facilities may have a cost range of greater than $10 million (construction costs, not including land acquisition). This proposed activity ranked highest of all activities in a preference survey of Salton Sea users and stakeholders (ranked 1st of 20 activities). Development of facilities in the East [Zone 2], and West [Zone 4] are equally preferred.

Table 2.5-1. Summary of Conceptual Plans/Implementation – Power Boating/Sailboating/Houseboating

Activity	• Boating - Power boating, sailboating, houseboating
Type of Facilities Projected	• Improved/restored or new launch sites (constructed ramps)/marinas
Location (Zone[s])	• East [Zone 2] and West [Zone 4]
Number of Facilities	• 8 existing ramps/marinas improved/restored; 12 new ramps/marinas
Support Facilities Required (at each)	• Parking area; ingress/egress areas; maintenance/repair/storage areas; utilities; provision facilities; communications; safety facilities and equipment; requires shoreline access
Key Steps to Implementation	• Upgrade existing facilities • Identify locations for new facilities • Build primary and support infrastructure • Improve transportation network • Implement control, monitoring, and safety systems • Substantial capital cost, planning, and construction requirements mean that facilities will have long lead times; will most likely occur after restoration is in place and Sea condition demonstrably improved
Implementation Factors	• **Entity Responsible/Ownership** – likely private, except in federal, state, or municipal recreation areas • **Management Approach** – private management for private facilities; publicly-managed facilities in federal, state, or municipal recreation areas, unless management is contracted;

	onsite management and provision of safety/medical services likely required • **Financing** – private facilities would be privately financed; development/ improvement of public facilities would likely be constrained by capital cost availability; both public and private types would have substantial initial capital requirements; both types would likely have user fees as a funding stream for O&M costs • **Environmental Considerations** - extensive facility construction both on-shore and nearshore for marina and maintenance facilities and the support infrastructure, including dredging, jetties, piers/docks, shoreline armoring, fill and paving. Fuels and other hazardous materials would be stored and used on-site. These activities would not be compatible with sensitive environmental resources. • **Physical Factors** – marina pier/docks should be located in proximity to provisions and safety/medical services. Floating docks on piers give more future flexibility compared to fixed structures, if Sea levels continue to fall in the future; safety requires physical separation of major use activities requiring marked charts, signage, etc.; infrastructure requirements for marinas will take up large areas of land, both along ingress/egress corridors and around the main facilities • **Social/Economic factors** – basic boat launch with small piers, cost range $100,000 to $500,000; major marina facilities, construction cost range >$10 million. This proposed activity ranked highest in a preference survey of Salton Sea users and stakeholders (ranked 1st of 20 activities).

Kayaking

Kayaking is differentiated from power boating activities by the smaller size and portability of the craft, and the ability to hand launch the craft with minimal structural support and minimal infrastructure, compared to large marinas and launch ramps. Kayaking is amenable to launches in remote areas, with minimal facilities, such as gravel or sand entries into the water body.

Kayaking, while not uncommon at the Sea, has become more popular nationally. Kayakers do not require elaborate facilities or infrastructure. Few commercial outlets cater specifically to this type of client at the Sea. Kayakers have the flexibility to enjoy open water, riverine or marsh areas, transitional shorelines, and narrower and shallower areas than can be accessed by larger power boats and sailboats. As discussed in Section 2.1.2, there are eight (8) existing launch areas that cater primarily to larger boats, but are easily accessed by kayakers. There are also many areas around the lake where kayakers can casually access the Sea.

Impacts of Restoration - Kayaking

Issues regarding water quality, salinity, Sea elevation and odors are strongly tied to recreation opportunities at the Salton Sea. On-going efforts to restore environmental conditions may increase user recreation opportunities. Restoration of marsh areas will likely increase kayaking opportunities. Kayak launch facilities developed as part of recreation plans for the restored Sea could be located in a variety of areas, requiring minimal allocation of resources for implementation and maintenance. Using any available larger launch facilities, as well as smaller sites developed more specifically for kayak users, a projected annual capacity of 100,000 launches could be accommodated with implementation of the appropriate infrastructure to support 8 existing and 19 new facilities (Appendix C).

Activity/Facility Recommendations – Kayaking

Recreation opportunities at the Salton Sea for kayaking can be implemented through improving existing launch facilities and marinas, and through building new launch facilities. These new facilities can vary in size, depending on use levels, land availability, and access, but are generally

simple gravel or sand ramps with low slopes that can be used to launch kayaks by hand or from light trailers. Since kayaks are human-powered, most kayakers will seek out launch sites in proximity to features of interest, including wildlife areas, wetlands, areas with low turbulence, and areas near campgrounds and support facilities.

Areas around the Sea that will most likely support these types of facilities include the west shore, where there is lesser wind influence on the kayak user, lesser wind chop, and in wetlands/rivers/refuge areas expected to be located primarily on the north and south shore areas. Use here combines exercise, tranquility, and wildlife viewing. The stakeholder surveys indicated preferences for facilities in the North [Zone 1].

Infrastructure Requirements – Kayaking

Infrastructure requirements for this activity/facility include the following: small parking areas; ingress/egress areas; and minimal utilities (e.g., water, sewer, waste disposal, etc.) (Table 2.5-2). These recreation opportunities also require access to the shoreline of the Sea. Physical requirements for the launch facilities include constructed ramps of gravel or sand, possibly a small pier or dock for mooring and tie-ups, and a paved or gravel/sand parking area. Minor pier construction and/or shoreline hardening may be implemented for easier access and to minimize erosion. Signage regarding launch areas and policies, routing and safety, and environmental/education information is generally part of the facility provided.

Key Steps Required for Implementation - Kayaking

The key steps required to implement kayaking recreation opportunities are summarized in Table 2.5-2, and include the following:

- Identify locations for launch facilities - additional launch ramp locations are expected to be required to meet projected recreation needs. Siting of these facilities needs to consider shoreline access, land use and ownership, as well as proximity to locations of interest and compatibility with existing and other uses.
- Build primary and support infrastructure – new ramp facilities will need to be constructed. Support infrastructure for both upgraded and new facilities, especially utilities, will need to be identified and constructed.
- Implement signage needs – Signage for separating kayaking activities from larger boating activities and other incompatible uses will likely be necessary, for safety purposes. Signage regarding launch areas and policies, routing and safety, and environmental/education information will likely be required.
- The low-tech nature of these types of facilities means that kayak launch areas could be developed quickly and at any time.

Implementation Strategies and Factors - Kayaking

The strategies and factors required to implement kayaking recreation opportunities are summarized in Table 2.5-2, and include the following:

- Ownership/Responsibility – Ownership will likely be public, especially in federal, state, or municipal recreation areas. Private facilities would likely be developed in conjunction with marinas servicing larger boats. Kayak launch facilities can be implemented in conjunction with larger marinas, but physically separate facilities are recommended.

- Management Approach - Private management is assumed for private facilities. Publicly-managed facilities are most likely to be located in federal, state, or municipal recreation areas, unless the management function is contracted.
- Financing - Private facilities would be privately financed. Development/improvement of public facilities would likely be less constrained by capital cost availability than for larger marinas, as these facilities are of much smaller scale. Both types would likely have user fees (launch fees, lake use fees, rentals, local guided tours, etc.) as a funding stream for operations and maintenance costs.
- Environmental Considerations - Kayak launch facilities and uses are generally compatible with wildlife habitat and wetlands areas. Only minor facility construction is required, including shoreline and nearshore modifications and excavation for launch ramp construction, placement of small piers and minor shoreline hardening, and some improvement or installation of utilities (water, sewer, waste handling).
- Physical Factors - Separation of kayaking activities from motorized boating activities (launch and use) is recommended for safety reasons. Use of the main body of the Sea by kayakers would likely require a restricted area, with no power boats, a low wake zone, etc. This type of area is likely best located along western shore area and Sea boundary.
- Social/Economic Factors - A kayak launch facility with small piers may have a cost range of less than $100,000 (construction costs, not including land acquisition). This proposed activity received relatively high submitted scores in a preference survey of Salton Sea users and stakeholders (ranked 7th of 20 activities). Development of facilities in the North [Zone 1] is preferred.

Table 2.5-2. Summary of Conceptual Plans/Implementation – Kayaking.

Activity	• Boating – kayaking
Type of Facilities Projected	• Beach launch areas, minor docks
Location (Zone[s])	• Beach launch areas – North [Zone 1]
Number of Facilities	• 8 existing launch areas; 19 potential new areas
Support Facilities Required	• Parking area; waste/sanitation facilities; paved, gravel, or sand launch area; appropriate signage; access to the shoreline is required for this activity
Key Steps to Implementation	• Identify locations for launch facilities • Build support infrastructure • Implement signage needs • Low-tech nature of facilities means launch areas could be developed quickly and at any time
Implementation Factors	• **Entity Responsible/Ownership** – likely public, especially in federal, state, or municipal recreation areas; requires shoreline access; can be implemented in conjunction with larger marinas, but physically separate facilities recommended • **Management Approach** – private management for private facilities; publicly-managed facilities in federal, state, or municipal recreation areas, unless management is contracted • **Financing** – private facilities would be privately financed; development/ improvement of public facilities would likely be less constrained by capital cost availability than for larger marinas, as these facilities are of much smaller scale; both types would likely have user fees as a funding stream for O&M costs • **Environmental Factors** – compatible with wildlife habitat and wetlands areas; only minor facility construction; shoreline and nearshore modification and

	excavation for launch ramp construction; placement of small piers and minor shoreline hardening; some improvement or installation of utilities • **Physical Factors** – separation from motorized boating activities recommended • **Social/Economic factors** – basic kayak launch with small piers, construction cost range <$100,000. This proposed activity received relatively high submitted scores in a preference survey of Salton Sea users and stakeholders (ranked 7th of 20 activities).

2.5.2 Camping

The camping category includes guest rentals, RV camping, and tent camping, each discussed separately. Houseboating activities are similar in nature to guest rentals. However, due to the infrastructure required for implementation, the discussion of houseboating occurs within the Boating (Section 2.5.1).

Guest Rentals

Guest rentals in the camping category are primarily rustic or outdoors oriented lodging such as cabins, yurts, teepees, permanent tents, and houseboats. This is an activity distinguished from condominiums and resort lodging which will be discussed in Section 2.5.5. Rustic guest rentals have not been historically present to any significant degree around the Salton Sea.

Cabins and rustic lodging have also not been significantly present at the Salton Sea, other than small spa resorts. Cabins and tent cabins are popular at Yosemite National Park and Big Bear Lake. Several hundred cabins and tent cabins are present in Yosemite. Several hundred privately owned cabins are available for rental around Big Bear. Rustic lodging would likely be popular in the winter months, but the summer months may be too hot.

Impacts of Restoration - Guest Rentals

Restoration efforts to improve ecological conditions can enhance user participation in guest rentals at the Sea. Cabin rentals could be popular near wildlife areas and restored wetlands and other habitats. It would be reasonable to expect that a few areas of cabins and ecotourism could be developed, particularly on the south end of the sea near the wildlife refuge and potential restoration areas.

Activity/Facility Recommendations – Guest Rentals

Facilities would need to be developed for guest rentals. Cabins and other rustic lodging would also have to be constructed, but could consist of a few cabins on a small parcel, or be more extensive up to a couple of hundred cabins in a scenic location. Projected reasonable capacity of guest rentals will be determined based upon future demand and Sea development. The results of the recreation opportunities survey conducted for this evaluation, indicate that the following zones are most appropriate for these types of facilities: East [Zone 2] and West [Zone 4].

Infrastructure Requirements – Guest Rentals

Infrastructure required for cabins and other rustic lodging include the following: access roads; parking areas; utilities (e.g., water, sewer, electricity, waste disposal, etc.); construction of small cabins or installation of tent cabins or similar.

Key Steps Required for Implementation – Guest Rentals

The key steps required to implement guest rental recreation opportunities are summarized in Table 2.5-3, and include the following:

- Expand and upgrade existing marina facilities to accommodate houseboats and rental/storage facilities.
- Identify locations for new facilities. Cabins or rustic lodging should be in proximity to scenic areas and hiking/wildlife activities. Siting of these facilities needs to consider shoreline access, land use and ownership.
- Build primary and support infrastructure. Primary infrastructure will include access roads, marinas, cabins. Support infrastructure such as utilities and maintenance facilities will need to be identified and constructed.
- Substantial capital cost, planning, and construction requirements mean that these types of facilities will likely have long lead times. Implementation will most likely occur after restoration is in place and the Sea condition has demonstrably improved.

Implementation Strategies and Factors – Guest Rentals

The implementation strategies and factors required to implement guest rental recreation opportunities are summarized in Table 2.5-3, and include the following:

- Ownership/Responsibility – Ownership and construction of new facilities is likely to be private or tribal, both because of the capital requirements and need for lands for development that are either too large for publicly owned lands or incompatible with public land uses. The one exception would be a small cabin or tent cabin development that may be compatible with either the SRA or wildlife areas.
- Management Approach – These facilities would likely have private management or privately contracted management in public lands. Onsite management and provision of safety/medical services would likely be required for any of these facilities to ensure public safety and make the experience safe and enjoyable.
- Financing – Private facilities would be privately financed. Development on public lands would be constrained by limited budgets and would likely only be a small cabin/tent cabin development. Both public and private facilities would have a large initial capital requirement for development and would absolutely have rental fees as a funding stream to support O&M.
- Environmental Considerations – Minor to extensive facility construction would be required depending on the scale of the development. Cabins would require access roads, parking, clearing, leveling, and construction of buildings. Installation of utilities (i.e., water, sewer, power, waste handling, communications, etc.) will be required in almost all cases, as existing facility support is not likely sized to support more demand.
- Physical Factors – Cabin development would require a suitable site for construction, location in proximity to scenic areas or other recreational features such as trails.
- Social/Economic Factors – Houseboat rentals would likely have construction costs of greater than $5 million (not including land acquisition). Cabin development costs would vary widely depending on the type of structures constructed and how many. Construction costs could range from $500,000 to $10 million (not including land acquisition). This proposed activity received mid-range submitted scores in a preference survey of Salton Sea users and stakeholders (ranked 12th of 20 activities). Development of facilities in the East [Zone 2] and West [Zone 4] are equally preferred.

Table 2.5-3. Summary of Conceptual Plans/Implementation – Guest Rentals.

Activity	• Camping – Guest Rentals

Type of Facilities Projected	• Cabins and other rustic lodging
Location (Zone[s])	• Cabins – East [Zone 2] and West [Zone 4]
Number of Facilities	• Multiple cabins
Support Facilities Required	• Cabins – water, power, sewer/septic, waste management, provisions
Key Steps to Implementation	• Identify locations • Build support infrastructure • Implement construction • Substantial capital cost, planning, and construction requirements mean that facilities will have long lead times; will most likely occur after restoration is in place and Sea condition demonstrably improved
Implementation Factors	• **Entity Responsible/Ownership** – likely private or tribal, except perhaps rustic lodging at wildlife areas and restored habitats (public) • **Management Approach** – private management for private facilities; publicly-managed facilities in federal, state, or municipal recreation areas, unless management is contracted • **Financing** – private facilities would be privately financed; public facilities would be limited to likely a small cabin development; both types would have rental fees as a funding stream for O&M costs • **Environmental Factors** – Cabins would require minimal to moderate construction depending on the scale and size; including clearing, leveling, roads, parking, buildings, and utilities. Small cabins could be compatible with sensitive environmental resources. • **Physical Factors** – Cabins should be located in proximity to other recreational features such as scenic areas, wildlife areas, etc. • **Social/Economic factors** – Construction costs for cabin development can range widely from $100,000 to up to $10 million. This proposed activity received mid-range submitted scores in a preference survey of Salton Sea users and stakeholders (ranked 12th of 20 activities).

Recreational Vehicle [RV] Camping

Recreational vehicle camping and long-term residence is one of the major recreational activities around the Sea. RV camping occurs at both developed and undeveloped (dry) sites in all zones around the Sea. There are currently 13 camping facilities, including the SRA, primarily private campgrounds and trailer parks. Undeveloped RV camping associated with OHV use also occurs at the Imperial Dunes south of the Sea.

Impacts of Restoration - RV Camping

Participation in RV Camping may be enhanced by on-going restoration efforts. However, RV camping is an activity that could occur anywhere around the Sea. The estimated current capacity of the existing facilities is 3,000 to 4,000, with potential for up to 1,000 RVs in informal camping areas. Most of the existing facilities are not utilized to their capacity. Potentially up to 20 new facilities could be developed for RV camping. This could multiply the existing capacity to 22,800 sites (Appendix C).

Activity/Facility Recommendations – RV Camping

Recreation opportunities for RV camping at the Salton Sea can be implemented through improvements and expansions at existing facilities and through building new campgrounds or trailer parks. These facilities can vary significantly in size.

The results of the recreation opportunities survey conducted for this evaluation indicate that the following locations are most appropriate for these types of facilities: all zones, but development in the East [Zone 2] and West [Zone 4] are preferred.

Infrastructure Requirements – RV Camping

Infrastructure requirements will vary widely depending on how developed the site is. For a fully developed site with hookups the following infrastructure would be required: parking areas (paved or unpaved); ingress/egress areas; utilities (power, water, septic/sewer, waste disposal); waste dumping facility; picnic and BBQ facilities, lighting, barrier fencing; access roads. More primitive camping would not need as much utilities, such as power, septic/sewer, but water and waste disposal is generally recommended. Long-term camping facilities would also need provisions, showers, potentially a community center and kitchen facility, landscaping.

These facilities do not require shore access and could be located either associated with marina facilities or separately. Facilities could be associated with towns, parks, OHV areas, or near scenic areas.

Key Steps Required for Implementation – RV Camping

The key steps required to implement additional RV camping recreational opportunities are summarized in Table 2.5-4, and include the following:

- Upgrade and expand existing facilities. Existing RV camping areas have not been maintained at a level that will support increased use. These facilities may need to be upgraded or expanded.
- Identify locations for new facilities. Additional RV camp sites are expected to be required to meet projected recreation needs. Siting of these facilities needs to consider land uses, proximity to provisions and other amenities, and ownership.
- Build primary and support infrastructure. Both new and expanded facilities will need to be constructed. Depending on how developed the site is, varying utilities will be required (water, sewer/septic, pump-out stations, power, waste management). Only limited primary features are required such as picnic tables, BBQs, and restrooms. Various safety and fee collection features will likely be required such as fencing, lighting, entrance kiosk/fee collection, first aid station.
- For some of these types of facilities, substantial capital cost, planning, and construction requirements mean that these types of facilities will have long lead times. Implementation of these types of facilities will most likely occur after restoration is in place and the Sea condition is demonstrably improved. Simpler facilities have a low-tech nature - these types of facilities could be developed quickly and at any time.

Implementation Strategies and Factors – RV Camping

The implementation strategies and factors required to implement and expand RV camping recreation opportunities are summarized in Table 2.5-4, and include the following:

- Ownership/Responsibility – Ownership, expansion and construction of new facilities could be public, private, or tribal. Capital expenses are relatively low for construction, although land acquisition could be more substantial. Extensive RV camping is available at the SRA and could be upgraded and/or expanded. Several private RV camping areas and trailer parks also could be upgraded and/or

expanded. Other sites can be identified depending on land uses, ownership, and proximity to amenities.

- Management Approach – These facilities could have public, private, or tribal management. Public management agencies may opt to subcontract management services. Onsite management would be required to ensure public safety and make the recreation experience safe and enjoyable.
- Financing – Facilities would be financed by public, private, or tribal depending on the ownership and responsibility. Because of the low cost for development, any of these entities is equally likely to be able to finance. Any developed RV camping sites would have user fees as a funding stream to support operation and maintenance.
- Environmental Considerations – Only minor construction is required for this activity, including access roads, parking (paved or unpaved), utilities (power, water, sewer/septic, pump-out stations, waste management), clearing, leveling, minor structures such as restrooms, fee kiosk, community center.
- Physical Factors – RV camping would be adaptable to any level to moderately level site, water access is not required but might be an added amenity. Site considerations would be environmental sensitivity of site, RV camping may or may not be compatible.
- Social/Economic Factors – Costs will vary depending on the level of development at the site and how large it is. RV camping sites can likely be constructed for around $100,000 to $500,000, not including land acquisition. This proposed activity received moderate submitted scores in a preference survey of Salton Sea users and stakeholders (ranked 10th of 20 activities). Development of facilities in the East [Zone 2] and West [Zone 4] are preferred.

Table 2.5-4. Summary of Conceptual Plans/Implementation – RV Camping.

Activity	• Camping – Recreational Vehicle (RV) Camping
Type of Facilities Projected	• RV Campgrounds, Trailer Parks, Mixed RV and Tent Campgrounds
Location (Zone[s])	• All Zones; East [Zone 2] and West [Zone 4]
Number of Facilities	• 13 existing/ Up to 20 new facilities
Support Facilities Required	• Water, sewer/septic, waste handling, power, fee collection, access roadways
Key Steps to Implementation	• Identify locations • Build support infrastructure • Implement construction • Low-tech nature of facilities means facilities could be developed quickly and at any time, although utility connections and suitable area designations would be the most time-consuming
Implementation Factors	• **Entity Responsible/Ownership** – Public, private, or tribal. • **Management Approach** – private management for private facilities; publicly-managed facilities in federal, state, or municipal recreation areas, unless management is contracted • **Financing** – private facilities would be privately financed; public facilities would be publicly financed; both types would have nightly usage fees as a funding stream for O&M costs • **Environmental Factors** – RV camping would require minimal to moderate construction depending on the scale and size; including clearing, leveling, roads, parking, restrooms and other common use buildings, utilities. RV camping could be compatible with sensitive environmental resources, depending on size and

	level of development. • **Physical Factors** – RV camping should be located in proximity to other recreational features such as scenic areas, wildlife areas, etc. Water access is not required. • **Social/Economic factors** – RV camping development can range widely from less than $100,000 to up to $1 million. (not including land acquisition) This proposed activity received moderate submitted scores in a preference survey of Salton Sea users and stakeholders (ranked 10h of 20 activities).

Tent Camping

Tent camping is also currently one of the major activities around the Sea. It currently occurs at up to 13 locations around the lake, particularly at the SRA, and can be associated with RV camping or can also be separate. Tent camping is also popular at the parks a little more distant to the Sea such as Anza Borrego State Park and Joshua Tree National Park.

Impacts of Restoration- Tent Camping

Salton Sea restoration efforts are not targeted towards tent camping. Yet, restoration of ecological conditions at the Sea may enhance tent camping activities. The estimated maximum capacity of existing facilities is about 2,000 tent sites, with the vast majority at the SRA. Most facilities are not utilized to capacity. Existing facilities could be expanded and new facilities could be constructed adjacent to special points of interest (i.e., wildlife habitat, hiking trails, kayaking areas, geothermal springs, etc). Potential reasonable capacity could accommodate 9,600 tent sites, necessitating renovation of the existing 13 sites and construction of approximately ten (10) new tent camping facilities (Appendix C).

Activity/Facility Recommendations – Tent Camping

Recreation facilities for tent camping can be implemented through expansion of existing facilities or construction of new facilities. These facilities can vary greatly in size depending on land availability, access, and proximity to adjacent other recreational activities.

The results of the recreation opportunities survey conducted for this evaluation indicate that all zones are appropriate for tent camping facilities, but development in the East [Zone 2] and West [Zone 4] are preferred. Zone 3 offers areas near wildlife refuges. Development of tent camping areas in Zone 4 may be a popular alternative given the location is in proximity to towns and Anza Borrego State Park.

Infrastructure Requirements – Tent Camping

Tent camping can be developed or undeveloped. A developed tent campground would require the following infrastructure: parking areas (paved or unpaved); ingress/egress areas; utilities (e.g., power, water, septic/sewer, waste disposal, etc.); picnic facilities and BBQs; and restroom/shower facilities. Primitive tent camping sites would only need parking areas, pit toilets, and waste disposal/cans.

Tent camping does not require shoreline access and can occur in a variety of settings. Tent camping probably would not be compatible with OHV uses, but would be highly compatible with the wildlife refuge and restored habitats.

Key Steps Required for Implementation – Tent Camping

The key steps required to implement tent camping recreation opportunities are summarized in Table 2.5-5, and include the following:

- Expand existing facilities. Existing tent camping sites are available at several locations including the SRA and private parks.
- Identify locations for new facilities. Additional tent camping sites are expected to be required to meet project recreation needs. Siting of these facilities needs to consider land uses, ownership, and proximity to other recreational opportunities such as wildlife, trails, etc. Tent camping would be highly compatible and desirable adjacent to the wildlife areas and any restored habitats.
- Build primary and support infrastructure. Only limited infrastructure is required for tent camping, primarily utilities for restrooms, potable water, and waste management.
- Implement control and safety measures. Limited control and safety measures such as fencing, fee collection, telephone would be required.
- For some of these types of facilities, substantial capital cost, planning, and construction requirements mean that these types of facilities will have long lead times. Implementation of these types of facilities will most likely occur after restoration is in place and the Sea condition is demonstrably improved. Simple facilities have a low-tech nature and could be developed quickly at any time.

Implementation Strategies and Factors – Tent Camping

The implementation strategies and factors required to implement tent camping recreation opportunities are summarized in Table 2.5-5, and include the following:

- Ownership/Responsibility – Ownership and construction of new or expanded facilities could be public, private, or tribal. Only limited capital is required for tent camping site development.
- Management Approach – These facilities could have public, private, or tribal management depending on land ownership. Onsite management would be preferable, but is not required. Some minimal safety features such as telephone and first aid station would likely be required.
- Financing – Financing could be public, private, or tribal depending on land ownership. Very little capital is required to expand or construct new facilities. User fees would provide a funding stream to support O&M.
- Environmental Considerations -- Only minor construction is required for this activity, including access roads, parking (paved or unpaved), utilities (power, water, sewer/septic, waste management), clearing, leveling, minor structures such as restrooms, fee kiosk.
- Physical Factors -- Tent camping would be adaptable to any level to even sloping site, water access is not required but might be an added amenity. Site considerations would be environmental sensitivity of site, and aesthetics. Tent camping would be highly compatible with wildlife areas and restored habitats.
- Social/Economic Factors – Costs will vary depending on how much development is provided and how large the site is. Construction of a tent camping facility is likely to be very low, from less than $100,000 up to perhaps $500,000 (not including any land acquisition). This proposed activity received relatively high submitted scores in a preference survey of Salton Sea users and stakeholders (ranked 5th of 20 activities). Development of facilities in the East [Zone 2] and West [Zone 4] are preferred.

Table 2.5-5. Summary of Conceptual Plans/Implementation – Tent Camping.

Activity	• Camping – Tent Camping
Type of Facilities Projected	• Tent campgrounds
Location (Zone[s])	• East [Zone 2] and West [Zone 4]
Number of Facilities	• 13 existing / 10 new
Support Facilities Required	• Water, sewer/septic, power, waste management, access roads (depends on level of development); access to the shoreline is not required for this activity
Key Steps to Implementation	• Identify locations • Build support infrastructure, if necessary • Implement minor construction of sites • Low-tech nature of facilities means facilities could be developed quickly and at any time, although utility connections and suitable area designations would be the most time-consuming
Implementation Factors	• **Entity Responsible/Ownership** – Public, private, or tribal • **Management Approach** – private management for private facilities; publicly-managed facilities in federal, state, or municipal recreation areas, unless management is contracted • **Financing** – private facilities would be privately financed; public facilities would be publicly financed; both types would have usage fees as a funding stream for O&M costs • **Environmental Factors** – Tent campgrounds would require minimal construction depending on the scale and size; including clearing, leveling, roads, parking, utilities, restrooms or other minor buildings. Tent camping is compatible with sensitive environmental resources. • **Physical Factors** – Tent camping should be located in proximity to other recreational features such as scenic areas, wildlife areas, etc. Water access is not required. • **Social/Economic factors** – Tent campgrounds should not be costly, typically less than $100,000, up to $500,000 for more developed sites. This proposed activity received relatively high submitted scores in a preference survey of Salton Sea users and stakeholders (ranked 5th of 20 activities).

2.5.3 Fishing

Fishing activities include freshwater fishing near the rivers that empty into the Sea, and a marine fishery in the more saline waters in the main body of the Sea.

Fishing – Freshwater

Currently there is only limited freshwater fishing available at the Salton Sea, in the river areas that empty into it. If the Sea were segregated into a marine lake and freshwater marsh/lake area, then freshwater fishing might become more viable. Freshwater fish species that could tolerate the likely very warm water conditions are primarily non-native and include common carp, silver carp, fathead minnow, tui chub, speckled dace, rough shiner, chub shiner, black or brown bullhead, sunfish, bluegill, arawana, clown knifefish, zebrafish, California roach, redbellied pacu, walking catfish, and Nile perch. To develop a freshwater fishery, appropriate game fish and forage fish would need to be introduced into the freshwater portion of the Sea. The potential effects on the native endangered desert pupfish populations could be significant from both competition and predation.

Freshwater fishing is popular at other regional lakes such as Lake Elsinore and Lake Mead/Mohave. Warm water game fish at the other lakes are primarily largemouth bass, striped bass, channel catfish, carp, and crappie. It is not known what potential demand there would be for freshwater fishing if it was available at the Sea.

Impacts of Restoration - Freshwater Fishing

The wetlands project at the New and Alamo Rivers will enhance freshwater areas at the Sea, enabling the habitat to support freshwater fishing. Provided adequate habitat is established, approximately 5 new freshwater fishing facilities are assumed to be needed to meet anticipated user demands (Appendix C).

Activity/Facility Recommendations – Freshwater Fishing

Recreation facilities for freshwater fishing can be implemented through expansion of existing facilities or construction of new facilities. These facilities can vary greatly in size depending what specific features are provided (i.e., docks, boat launch, shore fishing, etc.) and on land availability, water access, and proximity to adjacent other recreational activities.

The results of the recreation opportunities survey conducted for this evaluation indicate that the development of facilities in the North [Zone 1] and East [Zone 2] are equally preferred. Development of freshwater fishing opportunities in the West [Zone 4] seems unlikely, as there is no fresh water source in that area.

Infrastructure Requirements – Freshwater Fishing

Freshwater fishing sites can be developed or undeveloped. A developed facility could require the following infrastructure: parking areas (paved or unpaved); pier/dock; boat launch; fish cleaning station with water; waste handling/disposal; restrooms. Undeveloped shoreline fishing access locations would only require parking areas, pit toilets, and waste disposal/cans.

Freshwater fishing requires shoreline access to the freshwater portion of the Sea and can occur in a variety of settings. Freshwater fishing would be highly compatible with the wildlife refuge and restored habitats, unless there were effects on desert pupfish. Freshwater fishing would also be highly compatible with campgrounds, resort and marina development, and public parks.

Key Steps Required for Implementation – Freshwater Fishing

The key steps required to implement freshwater fishing recreation opportunities are summarized in Table 2.5-6, and include the following:

- Identify fish species that could be introduced for a freshwater fishery.
- Determine potential effects on desert pupfish (habitat, competition, predation).
- Upgrade existing facilities – existing launch areas have not been maintained at a level that will support increased use or a modified lake elevation. These facilities will need to be rehabilitated or rebuilt.
- Identify locations for new facilities – additional launch/marina, piers, and shoreline access areas are expected to be required to meet projected recreation needs. Siting of these facilities would occur in the freshwater portion of the Sea (expected to be the southern half) and would need to consider shoreline access, land use and ownership. Fishing locations can be co-located with other marina/resort development.
- Build primary and support infrastructure – new facilities will need to be constructed. Support infrastructure for both upgraded and new facilities, such as utilities, will need to be identified and constructed.

- Improve transportation network – New access roads to freshwater fishing sites are likely to be required. Widening of roads may also be necessary to provide safety for trailered boats.
- Implement control, monitoring, and safety systems – there will be a need to provide appropriate signage, enforcement of fishing regulations, and safety services to ensure public safety and a sustainable fishery. Enforcement and search-and-rescue services can be co-located with marina facilities.
- The low-tech nature of these types of facilities means that they could be developed quickly and at any time.

Implementation Strategies and Factors – Freshwater Fishing

The implementation strategies and factors required to implement freshwater fishing recreation opportunities are summarized in Table 2.5-6, and include the following:

- Ownership/Responsibility – Ownership and construction of new facilities could be public or private. Assuming the freshwater portion of the Sea is in the southern half, it is unlikely to be tribal. Fishing access is highly compatible with wildlife areas and restored habitats (except for desert pupfish habitats). Fishing access is also highly compatible with motorized or non-motorized boating access/launches and marinas. Existing facilities could be enhanced or refurbished to provide this recreational opportunity, or new facilities could be constructed.
- Management Approach – These facilities would have either public or private management depending upon ownership. Onsite management is not required, unless co-located with other facilities such as a marina.
- Financing – Private facilities would be privately financed, public facilities would be publicly financed. The introduction and development of the fishery would likely be publicly financed. Private landowners may be eligible for public funding (grants) to provide public access. Facilities would vary widely in the capital expenditure required for development. Launch/marina facilities would be very costly, whereas small piers and shoreline access locations would be low cost. Launch facilities would likely have a user fee as a funding stream to support O&M costs.
- Environmental Considerations – The major initial issue would be whether the introduction of non-native species for both a forage base and game fishery would adversely affect the native endangered desert pupfish and other species. The expansion or construction of freshwater fishing facilities would range from extensive shoreline construction for a launch/marina facility to very minor construction of parking areas for shoreline access. The maximum construction scenario would involve the placement of piers, boat ramps, dredging, shoreline armoring, parking, fish cleaning station, utilities (power, water, waste handling/disposal, sewer/septic) and restrooms.
- Physical Factors – The construction may involve fixed or floating pier structures. Floating piers would give the facility more flexibility for declining Sea levels. Fishing can occur onshore, nearshore and in the open Sea. Launch areas will require significant areas for parking, launching, turning, etc. On-shore or pier access requires minimal land area.
- Social/Economic Factors – A launch facility with piers may have a construction cost range of $500,000 to $1 million, shoreline access would be less than $100,000 (not including land acquisition). This proposed activity received relatively high submitted scores in a preference survey of Salton Sea users and stakeholders (ranked

5th of 20 activities). Development of facilities in the North [Zone 1] and East [Zone 2] are equally preferred.

Table 2.5-6. Summary of Conceptual Plans/Implementation – Freshwater Fishing.

Activity	• Fishing – Freshwater Fishing
Type of Facilities Projected	• Boat launches, marina, piers, shoreline access
Location (Zone[s])	• North [Zone 1] and East [Zone 2]
Number of Facilities	• Up to 5 new facilities, limited by available habitat
Support Facilities Required	• Parking areas, ingress/egress, safety equipment, water, sewer/septic, power, waste management, access roads (depends on level of development); access to the shoreline is required for this activity
Key Steps to Implementation	• Identify game and forage species to introduce • Determine potential effects on native species and develop fishery if no adverse effects • Identify locations • Build support infrastructure, as necessary • Implement construction of sites • Low-tech nature of some facilities (launches for small boats, foot access) means launch areas could be developed quickly and at any time; additional access could be provided as part of more complex infrastructure developments (marinas, jettys, piers, etc.); activity would likely be enhanced by habitat restoration/creation actions
Implementation Factors	• **Entity Responsible/Ownership** – public or private • **Management Approach** – private management for private facilities; publicly-managed facilities in federal, state, or municipal recreation areas, unless management is contracted • **Financing** – private facilities would be privately financed; public facilities would be publicly financed; launch areas would have usage fees as a funding stream for O&M costs • **Environmental Factors** – major initial issue is evaluation and development of a freshwater fishery and potential impacts to native species. Construction of facilities would range from major to minor. A developed launch/marina facility would involve boat launches, piers, docks, dredging, shoreline armoring, utilities, parking areas, and safety equipment areas. Shoreline access areas would only require access roadways, parking, and minor support facilities such as pit toilets, waste cans. • **Physical Factors** – freshwater fishing facilities need to be located on the freshwater portion of the Sea and water access is required. Facilities can be co-located with other launch/marina development or lesser developed sites are compatible with wildlife areas and restored habitats. • **Social/Economic factors** – fully developed launch facilities would cost in the range of $500,000 to $1 million, shoreline access areas would be less than $100,000 (not including land acquisition). This proposed activity received relatively high submitted scores in a preference survey of Salton Sea users and stakeholders (ranked 5th of 20 activities).

Fishing -- Marine Fishing

Fishing in the Salton Sea currently is entirely for marine/saltwater species that have been introduced and can survive in the highly saline environment, such as orangemouth corvina,

croaker, and tilapia. Fishing has been a very popular activity, but in recent years has declined due to fish kills and poor water quality. It is estimated that about 60,000 households or individual anglers use the Sea for saltwater fishing per year (CIC Research 1989).

Impacts of Restoration – Marine Fishing

It is expected that demand for saltwater fishing would increase substantially with water quality improvements and a viable fishery. Restoration efforts to control salinity will beneficially enhance the development of this activity. Approximately 5-10 new saltwater fishing facilities are assumed to be needed to meet projected annual capacity of 120,000 to 180,000 anglers (Appendix C).

Activity/Facility Recommendations – Marine Fishing

Recreation facilities for saltwater fishing can be implemented through expansion of existing facilities or construction of new facilities. These facilities can vary greatly in size depending what specific features are provided (i.e., docks, boat launch, shore fishing, etc.) and on land availability, water access, and proximity to adjacent other recreational activities.

Infrastructure necessary to support marine fishing opportunities include a mix of new boat launches, piers, and shoreline access points. The results of the recreation opportunities survey conducted for this evaluation indicate that development of facilities in the following zones are equally supported for saltwater fishing facilities: North [Zone 1], East [Zone 2] and South [Zone 3].

Infrastructure Requirements – Marine Fishing

Saltwater fishing sites can be developed or undeveloped. A developed facility could require the following infrastructure: parking areas (paved or unpaved); pier/dock; boat launch; fish cleaning station with water; waste handling/disposal; restrooms. Undeveloped shoreline fishing access locations would only require parking areas, pit toilets, and waste disposal/cans.

Saltwater fishing requires shoreline access to the saltwater portion of the Sea and can occur in a variety of settings. Saltwater fishing would be highly compatible with resort and marina development, campgrounds, municipal parks, and the SRA.

Key Steps Required for Implementation – Marine Fishing

The key steps required to implement saltwater fishing recreation opportunities are summarized in Table 2.5-7, and include the following:

- Upgrade existing facilities – existing launch areas/marinas have not been maintained at a level that will support increased use or a modified Sea elevation. These facilities will need to be rehabilitated or rebuilt.
- Identify locations for new facilities – additional launch/marina, piers and shoreline fishing access areas are expected to be required to meet projected recreation needs. Siting of these facilities needs to occur in the saltwater portion of the Sea and needs to consider shoreline access, land use, and ownership.
- Build primary and support infrastructure – new facilities will need to be constructed. Support infrastructure for both upgraded and new facilities, such as utilities, will need to be identified and constructed.
- Improve transportation network – New access roadways will likely be needed to any new facilities. Widening of existing roads to accommodate trailered boats will likely be required to support increased use levels.

- Implement control, monitoring, and safety systems -- there will be a need to provide appropriate signage, enforcement of fishing regulations, and safety services to ensure public safety and a sustainable fishery. Enforcement and search-and-rescue services can be co-located with marina facilities.
- Substantial capital cost, planning, and construction requirements mean that these types of facilities will have long lead times. Implementation of these types of facilities will most likely occur after restoration is in place and the Sea condition is demonstrably improved.

Implementation Strategies and factors – Marine Fishing

The implementation strategies and factors required to implement saltwater fishing recreation opportunities are summarized in Table 2.5-7, and include the following:

- Ownership/Responsibility – Ownership and construction of new facilities can be public, private, or tribal. Existing facilities in public ownership may be refurbished or expanded.
- Management Approach – The facilities would have public, private, or tribal management depending upon ownership. Onsite management is not required unless co-located with a marina facility.
- Financing – Private facilities would be privately financed, public facilities would be publicly financed. Private and tribal landowners may be eligible for public funding (grants) to provide public access opportunities. Facilities would vary widely in the capital expenditure required for development. Launch/marina facilities would be very costly, whereas small piers and shoreline access locations would be low cost. Launch facilities would likely have a user fee as a funding stream to support O&M costs.
- Environmental Considerations -- The expansion or construction of saltwater fishing facilities would range from extensive shoreline construction for a launch/marina facility to very minor construction of parking areas for shoreline access. The maximum construction scenario would involve the the placement of piers, boat ramps, dredging, shoreline armoring, parking, fish cleaning station, utilities (power, water, waste handling/disposal, sewer/septic) and restrooms.
- Physical Factors – The construction may involve fixed or floating pier structures. Floating docks would give the facility more flexibility for declining Sea levels. Fishing can occur onshore, nearshore and in the open Sea. Launch areas will require significant areas for parking, launching, turning, etc. On-shore or pier access requires minimal land area.
- Social/Economic Factors -- A launch facility with piers may have a construction cost range of $500,000 to $1 million, shoreline access would be less than $100,000 (not including land acquisition). This proposed activity received a relatively high submitted score in a preference survey of Salton Sea users and stakeholders (ranked 8th of 20 activities). Development of facilities in the North [Zone 1], East [Zone 2] and South [Zone 3] are equally preferred.

Table 2.5-7. Summary of Conceptual Plans/Implementation – Marine Fishing.

Activity	• Fishing – Marine Fishing
Type of Facilities Projected	• Boat launches, marina, piers, shoreline access
Location (Zone[s])	• North [Zone 1], East [Zone 2] and South [Zone 3]
Number of Facilities	• Potential for expansion of a few existing facilities, potentially up to 10 new

	facilities
Support Facilities Required	• Parking areas, ingress/egress, safety equipment, water, sewer/septic, power, waste management, access roads (depends on level of development); access to the shoreline is required for this activity
Key Steps to Implementation	• Identify locations • Build support infrastructure, if necessary • Implement construction of sites • Substantial capital cost, planning, and construction requirements mean that facilities will have long lead times; will most likely occur after restoration is in place and Sea condition demonstrably improved
Implementation Factors	• **Entity Responsible/Ownership** – Public, private or tribal • **Management Approach** – private management for private facilities; publicly-managed facilities in federal, state, or municipal recreation areas, unless management is contracted • **Financing** – private facilities would be privately financed; public facilities would be publicly financed; launch areas would have usage fees as a funding stream for O&M costs • **Environmental Factors** – construction of facilities would range from major to minor. A developed launch/marina facility would involve boat launches, piers, docks, dredging, shoreilne armoring, utilities, parking areas, and safety equipment areas. Shoreline access areas would only require access roadways, parking, and minor support facilities such as pit toilets, waste cans. • **Physical Factors** – saltwater fishing facilities need to be located on the saltwater portion of the Sea and water access is required. Facilities can be co-located with other launch/marina development or lesser developed sites are compatible with wildlife areas and restored habitats. • **Social/Economic factors** – construction of fully-developed launch facilities would cost in the range of $500,000 to $1 million, shoreline access areas would be less than $100,000. This proposed activity received a relatively high submitted score in a preference survey of Salton Sea users and stakeholders (ranked 8th of 20 activities).

2.5.4 Off Highway Vehicle Use

Off Highway Vehicles include motorized dune buggies, two-, three- and four-wheel ATVs and motorcycles, and other motorized vehicles. OHV use has a long history in the Salton Sea area, with existing OHV use areas located within an hour's drive of the Sea at Glamis (to the east) and in the Anza-Borrego State Park (to the west). To the south, there are several heavily-used OHV areas located adjacent to I-8.

While no history of extensive OHV use at the Sea exists, there are large areas of undeveloped land, both private and public, in the areas surrounding the Sea that would be potentially suitable for OHV uses. OHV use is popular in many desert areas in the Southwest, and facilities are present at other recreation-oriented lakes and rivers in Southern California. Lake Elsinore maintains a motocross facility adjacent to the lake, and Lake Perris has a BMX facility. OHV use areas are available within 30 miles of Lake Havasu and Lake Arrowhead. OHV users are a combination of single-day users, arriving in the morning and departing before the end of the day, and longer-term users, including campers, and outdoor enthusiasts who stay in the same place for multiple days.

Impacts of Restoration – Off Highway Vehicle Use

Restoration of the Salton Sea would marginally open up new opportunities for OHV use by making the overall region more attractive to users as a result of improving water quality and stabilizing Sea levels. The nature of OHV use is such that it is not directly tied to Sea restoration. Development of facilities and use by OHV enthusiasts can take place without implementation of a restoration activity. This increased use would lead to the need for developing new facilities to meet anticipated demand. The Authority would likely be pressured to develop new areas to accommodate OHV use. Land use plans will incorporate existing and proposed uses. Any areas exposed by retreat of the Sea should be protected from OHV use.

Activity/Facility Recommendations – Off Highway Vehicle Use

OHV areas require large dedicated acreage with reasonable access to autos and RVs. This proposed activity received the lowest submitted scores in a preference survey of Salton Sea users and stakeholders (ranked 20th of 20 activities), who frequently cited incompatibility with other preferred uses in the area.

Recreation opportunities at the Salton Sea for OHV use can be implemented through building new use areas. These types of facilities can vary in size, depending on use levels, land availability, access, and economic viability, but generally encompass large areas to allow for multiple users at the same time, for safety, and to reduce land degradation in the use area. Development of up to 8 new areas would provide sufficient capacity to sustain the increased future use of OHVs (Appendix C).

Where respondents expressed a preference for such facilities, OHV use facilities were equally supported in all zones. Alternatively, visitors to the Salton Sea can travel up to one hour east, west, or south of the Sea and access existing OHV use areas.

Infrastructure Requirements – Off Highway Vehicle Use

Infrastructure requirements for this activity/facility are fairly simple, include the following: parking, waste cans/dumpsters, oil waste disposal/recycling, and restrooms (Table 2.5-8). Most OHV users are campers (RV or other guest rentals) or day users, arriving by car or RV. Users generally arrive individually or in small groups, although regional contests involving large numbers of participants are possible.

On the eastern [Zone 2] and southern [Zone 3] sides of the Sea, improvements to existing major roadways and routes form these roadways to the Sea will likely be necessary to accommodate increased traffic volume and the size of the vehicle/trailer combinations associated with this type of recreation. The existing two-lane highway (or less) may not be able to accommodate these vehicles. On the western [Zone 4] side of the Sea, and existing four-lane divided highway is adequate for regional movement – new and/or improved access roads would be needed to get from this highway to any newly-designated OHV facilities. These recreation opportunities do not require access to the shoreline of the Sea.

Key Steps Required for Implementation – Off Highway Vehicle Use

The key steps required to implement OHV recreation opportunities are summarized in Table 2.5-8, and include the following:

- Identify appropriate OHV use areas – these areas require many acres, with defined access and parking.
- Environmental clearances and permitting – designation of new OHV use areas will likely require fairly substantial timelines for clearances and permitting, as large areas of habitat are affected, and long-term degradation is expected as a result of this use.
- Build support infrastructure – new facilities will need to be constructed. Support infrastructure for new facilities, while fairly simple, will need to be identified and constructed. Especially on the east and south shores of the Sea, existing highways and access roads may be hard-pressed to support numbers of RVs and large trailers. Widening of these roads and provision of adequate ingress/egress, parking, and maneuvering areas is required to support increased use levels. On the west side, the primary issue will be constructing access roads to any new OHV areas.
- Implement control, monitoring, and safety systems – OHV uses will entail the need to provide appropriate signage, oversight, training, and safety services to ensure public safety and make the recreation experience safe and enjoyable.
- Development of these facilities could occur at any time; OHV use is only marginally dependent on Salton Sea restoration activities.

Implementation Strategies and Factors – Off Highway Vehicle Use

The strategies and factors required to implement OHV recreation opportunities are summarized in Table 2.5-8, and include the following:

- Ownership/Responsibility – Ownership of these facilities will most likely private or tribal, although development could occur on private, public, or tribal lands.
- Management Approach – Management will likely be private on private or tribal lands; on public lands, management responsibilities would likely be contractually shared between private developer and agency staff, with the agency having ultimate responsibility. Onsite management and provision of safety/medical services would possibly be required for public safety and to address injuries and emergencies.
- Financing – The initial development of these facilities is most likely through private sources, although facilities could potentially be developed through tribal sources. Capital recovery and operations would likely be financed through user fees and rental fees.
- Environmental Considerations – This use needs to occur where the activity will not adversely affect high quality habitats, or adversely affect other development, land uses, or housing through noise and air pollution. Management will need to control

non-point source erosion and runoff in disturbed areas. Waste management and oil and fuel wastes could be a significant issue. A significant permitting and approval process and timeline is likely.

- Physical Factors – This activity needs a large area; there may be a potential need to control the overall number of riders, for safety, environmental, and air quality reasons. Development and economic status of adjacent services would benefit from such designation, but may need to be developed more in response to demand than in the initial stages (groceries, fuel, etc.).
- Social/Economic Factors – Minimal facilities and services equate to a construction cost range of <$100,000; Construction of higher level service facilities are estimated to cost $100,000 - $500,000, not including land acquisition. This proposed activity received the lowest submitted scores in a preference survey of Salton Sea users and stakeholders (ranked 20th of 20 activities), who frequently cited incompatibility with other preferred uses in the area. Development in the all zones are equally supported by survey respondents.

Table 2.5-8. Summary of Conceptual Plans/Implementation – Off Highway Vehicle Use.

Activity	• Off Highway Vehicle (OHV) use
Type of Facilities Projected	• Designated areas for OHV use
Location (Zone[s])	• All Zones
Number of Facilities	• Up to 8 new areas
Support Facilities Required	• Parking, waste cans/dumpsters, oil waste disposal/recycling, restrooms, access roads; does not require shoreline access
Key Steps to Implementation	• Identify appropriate OHV use areas • Environmental clearances and permitting • Construction of primary and support infrastructure • Implement signage needs, control, monitoring, and safety systems • Development could occur at any time; only marginally dependent on Salton Sea restoration activities
Implementation Factors	• **Entity Responsible/Ownership** – most likely private or tribal ownership of facilities, although development could occur on private, public, or tribal lands. • **Management Approach** – private on private or tribal lands; on public lands, management responsibilities likely contractually shared between private developer and agency staff, with agency having ultimate responsibility; onsite management and provision of safety/medical services possibly required • **Financing** – initial development most likely through private sources, although potential through tribal; capital recovery and operations likely financed through use fees and rental fees • **Environmental Factors** – needs to occur where activity will not adversely affect high quality habitats, or adversely affect other development/uses/housing through noise/air pollution. Need to control non-point source erosion and runoff in disturbed areas. Waste management and oil and fuel wastes could be a significant issue. Significant permitting and approval process and timeline likely. • **Physical Factors** – needs a large area; potential need to control the overallnumber of riders; adjacent services would benefit, but may need to be developed in response to demand. • **Social/Economic factors** -- minimal facilities and services, cost range <$100,000 for construction. This proposed activity received the lowest submitted scores in a preference survey of Salton Sea users and stakeholders (ranked 20th of 20 activities), who frequently cited incompatibility with other preferred uses in the

	area.

2.5.5 Resort Activities

Resort-related activities are discussed under the following gaming/spa facilities and golf facilities sections.

Resort/Gaming

While gaming has recently developed in the nearby Palm Springs area, and is prevalent on the Colorado River in Laughlin, Nevada, there is little historic presence of casino gaming in the Salton Sea area. In the Palm Springs area, recent gaming ventures have been associated with tribal initiatives, some alone and some in partnership with private interests. The Torres Martinez tribe, with lands in the northwestern portion of the Sea [Zone 1], is a candidate to implement casino gaming on their reservation. Resorts are also frequently associated with mineral springs and hot springs; some such springs are found in the areas around the Salton Sea, and would be candidates for inclusion in resort facilities catering to leisure users.

More than a dozen casinos are in operation in the Laughlin area, but Southern Californians can save several hours traveling time by visiting casinos in the Palm Springs area. Combined with other activities which may be developed around the restored Salton Sea, or as a destination in and of itself, when combined with spas or golf courses, and as an adjunct activity to other recreational pursuits, resort gaming may be a popular activity in the Salton Sea area. Gaming/spa resorts can be day-use facilities for visitors, or can be combined with lodging and other amenities for extended vacation stays by guests.

Impacts of Restoration- Resort/Gaming

The estimated maximum capacity of the existing facilities is very small, due to lack of use and the resulting lack of interest in maintenance and upgrades. Restoration of the Salton Sea would open up new opportunities for resort-type facilities use by improving water quality and stabilizing Sea levels, making staying around the Sea a more attractive feature. This increased use would lead to the need for new resort facilities to meet anticipated demand. Development of up to 12 new facilities would provide sufficient resources to sustain the projected annual capacity of 1.2 million gamblers (Appendix C).

Activity/Facility Recommendations – Resort Gaming

Recreation opportunities at the Salton Sea for resort gaming and spa facilities would be implemented through building new resort facilities. These types of facilities can vary in size, depending on use levels, land availability, access, and economic viability, but are generally large, higher-end facilities that cater to affluent leisure users as resident guests, while attracting a wide economic range of casual visitors to the gaming facilities. These resort facilities may be located to take advantage of natural mineral or hot springs; gaming facilities would most likely be located on tribal lands.

The results of the recreation opportunities survey conducted for this evaluation, combined with information regarding historic and existing facilities for this type of activity, indicate that the North [Zone 1] area is most appropriate for this type of facility, as this is where the Torres Martinez lands are located (Figure 2-3). Facilities in the West [Zone 4] were also favored.

Infrastructure Requirements – Resort Gaming

Infrastructure requirements for this activity/facility include the following: gaming facilities, RV parking, RV hookups, picnic facilities, water, restrooms, electricity, telephone/cable, lodging, concessions (i.e., restaurant, bar, convenience store, groceries, clothing, gifts, etc.), beach, trails, and swimming. These facilities may also be implemented in conjunction with golf course development; these types of activities may also be implemented in conjunction with mineral springs/spas, entailing pools, water, showers, restrooms, changing facilities/lockers, fee collection, electricity, lighting, fencing/security, first aid, telephone/cable, lighting, lifeguard, laundry, waste disposal, and septic facilities.

The traffic associated with these types of facilities will likely require substantial areas for ingress/egress and parking. On the northern [Zone 1] side of the Sea, improvements to existing major roadways and routes form these roadways to the Sea and any new facilities will likely be necessary to accommodate increased traffic volume associated with this type of recreation. These recreation opportunities do not require access to the shoreline of the Sea, but the value of the experience is frequently enhanced by such a feature. Physical requirements for the facilities include heavy and extensive construction.

Key Steps Required for Implementation - Resort Gaming

The key steps required to implement resort gaming and spa recreation opportunities are summarized in Table 2.5 9, and include the following:

- Identify locations for new facilities – new resort casino/spa facilities are expected to be developed to meet projected recreation demands. Siting of these facilities needs to consider availability of land, potential for access to the shoreline, and availability of water.
- Build primary and support infrastructure – new facilities will need to be constructed. Support infrastructure for both upgraded and new facilities, especially utilities, will need to be identified and constructed.
- Improve transportation network – especially on the north shore of the Sea, existing highways and access roads will need improvements to support increased traffic volumes associated with these types of facilities. Widening of these roads and provision of adequate ingress/egress and parking areas is required to support increased use levels.
- Substantial capital cost, planning, and construction requirements mean that facilities will have long lead times; construction and operation of these types of resorts will most likely occur after restoration is in place and the Sea condition is demonstrably improved.

Implementation Strategies and Factors - Resort Gaming

The implementation strategies and factors required to implement resort gaming and spa recreation opportunities are summarized in Table 2.5-9, and include the following:

- Ownership/Responsibility – Ownership of these types of facilities will likely be private and/or tribal. Spa resorts could be placed on private, tribal, or public lands. Development of these types of facilities could occur associated with the restoration of the Sea or at any time in upland/mountain areas not directly adjacent to the Sea. Shoreline development would most likely be associated with successful restoration of the Sea and improved water quality.

- Management Approach – These facilities would likely have private management for private facilities, and for tribal facilities either tribal or private management is most likely. Facilities on public lands would likely be developed and managed by private firms/contractors in a concessionaire status. Spa facilities must meet California Department of Health regulations, requiring associated services, and pool/spa maintenance.
- Financing - Private and tribal facilities would be privately financed. The development of facilities on public lands would likely be constrained by capital cost availability, given the status of public budgets in the immediate past, so public/private partnerships are most likely. Both public and private types of facilities would have substantial initial capital requirements; both types would likely have guest fees and user fees as a funding stream for cash flow to support O&M costs. Economic development grants may be available in some cases.
- Environmental Considerations - Extensive facility construction would be required for this activity. Shoreline and nearshore modifications and dredging, excavation, and fill of material would be required to construct the primary layout of facilities located along the shoreline. Upland facilities would also require complex construction. Currently, most of the resorts at the Sea are primarily RV parks and associated facilities. More complex developed hotel resorts are feasible, but would require significant development of roadways, utilities, structures and potentially shoreline beaches/docks, etc. Geology is a factor in facility desirability, as some proposals for facilities at the Sea have included the construction of islands or extending the existing shoreline through placement of fill. For spa facilities, the level of development can vary widely depending on whether an indoor or outdoor facility is developed. A minimum facility would need access roadways, parking, utilities, and some structure(s). These facilities should be developed where it will not adversely affect high quality habitat areas. Each facility would likely need piping/circulation of water, paving, construction of area ponds, utilities, water/wastewater, access roads and structures.
- Physical Factors – Considerations include availability of land. Access to the shoreline is not required, but this amenity is desirable for these types of facilities. The availability of water in the region is a concern, as these types of facilities generally entail a high per capita water use. Spas would likely require co-location with geothermal springs and other water supply.
- Social/Economic Factors – The construction cost range for these types of facilities would likely range from $1 million to >$10 million for complex casino resorts (not including land acquisition). This proposed activity (resort-gaming) received very low submitted scores in a preference survey of Salton Sea users and stakeholders (ranked 18th of 20 activities), who frequently cited incompatibility with other preferred uses in the area, as well as concerns regarding water supply. Development of facilities in the North [Zone 1] and the West [Zone 4] are equally support by survey respondents. However, due to tribal considerations, the north [Zone 1] area is preferred for facility development. Spa facilities were not included as part of the stakeholder survey.

Table 2.5-9. Summary of Conceptual Plans/Implementation – Resort/Gaming Activities.

Activity	• Resort Activities – Gaming

Type of Facilities Projected	• New resorts with casino facilities; new casinos; resorts with spa facilities
Location (Zone[s])	• North [Zone 1] and West [Zone 4]
Number of Facilities	• Up to 12 new
Support Facilities Required	• Gaming facilities, RV parking, RV hookups, picnic facilities, water, restrooms, electricity, telephone/cable, lodging, concessions (restaurant, bar, convenience store, groceries, clothing, gifts, etc.), beach, trails, swimming; may be implemented in conjunction with golf course development (addressed separately); may be implemented in conjunction with mineral springs/spas - pools, water, showers, restrooms, changing facilities/lockers, fee collection, electricity, lighting, fencing/security, first aid, telephone/cable, lighting, lifeguard, laundry, waste disposal, septic facilities. Access to shoreline a plus, but not required; shoreline development most likely associated with successful restoration of the Sea and improved water quality.
Key Steps to Implementation	• Identify locations for new facilities • Build primary and support infrastructure • Improve transportation network • Substantial capital cost, planning, and construction requirements mean that facilities will have long lead times; will most likely occur after restoration is in place and Sea condition demonstrably improved
Implementation Factors	• **Entity Responsible/Ownership** – likely private and/or tribal; spa resorts could be placed on private, tribal, or public lands. Could occur associated with restoration of the Sea or at any time in upland/mountain areas. • **Management Approach** – private and/or tribal management most likely; facilities on public lands likely developed and managed by private firms/contractors; spa facilities must meet California Department of Health regulations, associated services, pool/spa maintenance • **Financing** – private and/or tribal financing most likely; economic development grants a possibility • **Environmental Factors** – currently, most of the resorts at the Sea are primarily RV parks and associated facilities. More complex developed hotel resorts are feasible, but would require significant development of roadways, utilities, structures and potentially shoreline beaches/docks, etc.; geology a factor in desirability, as some proposals have included the construction of islands or extending the existing shoreline through placement of fill. For spa facilities, level of development can vary widely depending on whether an indoor or outdoor facility developed and associated facilities. At a minimum, facilities would require access roadways, parking, utilities, and some structure. Should be developed where it will not adversely affect high quality habitat areas. Facility would likely need piping/circulation of water, paving, construction of area ponds, utilities, water/wastewater, access roads and structures. • **Physical Factors** – availability of land; access to shoreline not required, but desirable; availability of water; spas would likely require geothermal springs and other water supply • **Social/Economic factors** – construction cost range likely from $1 million to >$10 million. This proposed activity received very low submitted scores in a preference survey of Salton Sea users and stakeholders (ranked 23rd of 24 activities), who frequently cited incompatibility with other preferred uses in the area, as well as concerns regarding water supply.

Resort/Golf

A combination of severe climate, lack of easily-available water sources, and a relatively small base of support have generally prevented golf from being successfully supported in the area of the Salton Sea. Only a couple of small, lower quality facilities are currently in service. However, in the Palm Springs area one hour to the north, and in the Anza-Borrego area one hour to the west, there are many public, semi-private, and private courses and facilities that enjoy year-round support, primarily as a result of historically low land prices, abundant water, and a wide base of resident and visitor support.

Golf is a recreational activity that generally needs year-round support from both local permanent residents and visitors to be economically viable. Golf is a popular activity for longer-term visitors to the general Salton Sea area, as well as permanent residents. Visitor users are generally from higher-income categories and are willing to spend money for adequate and attractive facilities. Users of golf facilities are also likely to use other upscale resort and other recreation facilities, such as boating, resort gaming/spa facilities, OHV and personal watercraft, and guest rentals. Local residents are generally more inclined to use these facilities during the week or during the "off-season", when prices are generally lower. However, this year-round support is crucial to the viability of this type of facility.

Golf facilities are not that prevalent at other recreational lakes and rivers in the Southern California area. Only the Lake Havasu area, which gets more annual visitors than any of the other venues, and encompasses a larger area, has a number of local facilities immediately adjacent to the primary use areas. The other recreational venues used as contrast for the Salton Sea in this evaluation (Arrowhead, Perris, Elsinore, Diamond Valley) have golf courses located in the surrounding region, but they are not co-located with water related amenities, and are few in number.

Impacts of Restoration – Resort/Golf

Restoration efforts are occurring independently of proposed golf facilities. Future development of location to support this activity would need to address environmental impact issues, such as water quality/quality and pesticide management. Due to the large land requirements for such a venue, and the proximity of such facilities in the Palm Springs area, it is estimated that the initial demand for this type of facility would be limited and tied to development of a particular resort feature, probably in combination with gaming/spa facilities and other amenities. According to the Comparative Lake Analysis, development of between 60 and 300 new facilities would provide sufficient capacity to sustain the projected 3.6 to 18 million annual users (Appendix C). As the recreation base and local population in the Salton Sea area grow, other similar facilities, or even standalone golf facilities, might be supported. As an initial estimate for this evaluation, a total of two such facilities are assumed to be the most that can be supported in the near term.

Activity/Facility Recommendations – Resort/Golf

Recreation opportunities at the Salton Sea for golf can be implemented through improving existing golf facilities and through building new facilities. A total of two new resort/golf facilities are assumed to be needed to meet anticipated recreation demands. The results of the recreation opportunities survey conducted for this evaluation, combined with information regarding historic and existing facilities for this type of activity, indicate that development of facilities in the West [Zone 4] are desired.

Infrastructure Requirements – Resort/Golf

Infrastructure requirements for this activity/facility include the following: golf facilities, RV parking, RV hookups, picnic facilities, water, restrooms, electricity, telephone/cable, lodging,

concessions (i.e., restaurant, bar, convenience store, groceries, clothing, gifts, etc.), beach, trails, swimming; may be implemented in conjunction with casino/gaming development and/or spa facilities (Table 2.5-9).

Increased traffic volume resulting from use of these facilities would require road improvements and provision of parking. On the northern [Zone 1] side of the Sea, improvements to exits from existing major roadways and routes from these roadways to the Sea will likely be necessary to accommodate increased traffic volume. These recreation opportunities do not necessarily require access to the shoreline of the Sea. If implemented along the shoreline, substantial land movement and grading, construction and shoreline hardening would likely be required to protect the facilities from wave action and erosion.

Key Steps Required for Implementation – Resort/Golf

The key steps required to implement resort golf recreation opportunities are summarized in Table 2.5-10, and include the following:

- Identify locations for new facilities – new resort golf facilities are expected to be developed to meet projected recreation demands. Siting of these facilities needs to consider availability of land, potential for access to the shoreline, and availability of water. These facilities would likely be co-located with resort gaming/spa facilities and other major recreation facilities.
- Build primary and support infrastructure – new facilities will need to be constructed. Support infrastructure for both upgraded and new facilities, especially utilities, will need to be identified and constructed.
- Improve transportation network – especially on the north shore of the Sea, existing highways and access roads will need improvements to support increased traffic volumes associated with these types of facilities. Widening of these roads and provision of adequate ingress/egress and parking areas is required to support increased use levels.
- Substantial capital cost, planning, and construction requirements mean that facilities will have long lead times. Construction and operation of these types of resorts will most likely occur after restoration is in place and the Sea condition is demonstrably improved.

Implementation Strategies and Factors – Resort/Golf

The strategies and factors required to implement resort golf recreation opportunities are summarized in Table 2.5 10, and include the following:

- Ownership/Responsibility – Ownership of these types of facilities will likely be private and/or tribal. Golf resorts could be placed on private, tribal, or public lands. Development of these types of facilities could occur associated with the restoration of the Sea or at any time in upland/mountain areas not directly adjacent to the Sea.
- Management Approach – These facilities would likely have private management for private facilities, and for tribal facilities either tribal or private management is most likely. Facilities on public lands would likely be developed and managed by private firms/contractors in a concessionaire status.
- Financing - Private and tribal facilities would be privately financed. The development of facilities on public lands would likely be constrained by capital cost availability. Given the status of public budgets in the immediate past, public/private partnerships are most likely. Both public and private types of facilities would have

substantial initial capital requirements; both types would likely have guest fees and user fees as a funding stream for cash flow to support O&M costs. Economic development grants may be available in some cases.

- Environmental Considerations - Extensive facility construction would be required for this activity. Shoreline and nearshore modifications and dredging, excavation, and fill of material would be required to construct the primary layout of facilities located along the shoreline. Upland facilities would also require complex construction. Currently, most of the resorts at the Sea are primarily RV parks and associated facilities. More complex developed hotel resorts are feasible, but would require significant development of roadways, utilities, structures and potentially shoreline beaches/docks, etc. Geology is a factor in facility desirability, as some proposals for facilities at the Sea have included the construction of islands or extending the existing shoreline through placement of fill. These facilities should be developed where it will not adversely affect high quality habitat areas; golf facilities require substantial area, 200 to 300 acres, at least. Each facility would likely need piping/circulation of water, paving, construction of area ponds, utilities, water/wastewater, access roads and structures. Designs would need to consider minimizing runoff of nutrients and pesticides/herbicides into drainage to the Sea.
- Physical Factors – Considerations include availability of land - access to the shoreline is not required, but this amenity is desirable for these types of facilities. The availability of water in the region is a concern, as these types of facilities generally entail a high per capita water use throughout the year and long-term. As the base of population builds, reclaimed water may become available.
- Social/Economic Factors – The construction cost range for these types of facilities would likely range from $1 million to >$10 million for complex golf resorts (not including land acquisition). This proposed activity (resort-golf) received fairly low submitted scores in a preference survey of Salton Sea users and stakeholders (ranked 17th of 20 activities), who frequently cited incompatibility with other preferred uses in the area, as well as concerns regarding water supply. Facilities in the West [Zone 4] are preferred.

Table 2.5-10. Summary of Conceptual Plans/Implementation –Resort/Golf Activities.

Activity	• Resort Activities – Golf
Type of Facilities Projected	• New resorts with golf course(s)
Location (Zone[s])	• West [Zone 4]
Number of Facilities	• 60 – 300 new facilities
Support Facilities Required	• Golf facilities, RV parking, RV hookups, picnic facilities, water, restrooms, electricity, telephone/cable, lodging, concessions (restaurant, bar, convenience store, groceries, clothing, gifts, etc.), beach, trails, swimming; may be implemented in conjunction with casino/gaming development and/or spa facilities. Access to shoreline a plus, but not required; shoreline development most likely associated with successful restoration of the Sea and improved water quality.
Key Steps to Implementation	• Identify locations for new facilities • Build primary and support infrastructure • Improve transportation network • Implement control, monitoring, and safety systems • Substantial capital cost, planning, and construction requirements mean that facilities will have long lead times; will most likely occur after restoration is in place and Sea condition demonstrably improved
Implementation Factors	• **Entity Responsible/Ownership** – likely private and/or tribal. Could occur

	associated with restoration of the Sea or at any time in upland/mountain areas. • **Management Approach** – private and/or tribal management most likely • **Financing** – private and/or tribal financing most likely; economic development grants a possibility • **Environmental Factors** – currently, most of the resorts at the Sea are primarily RV parks and associated facilities. More complex developed hotel resorts are feasible, but would require significant development of roadways, utilities, structures and potentially shoreline beaches/docks, etc.; geology a factor in desirability, as some proposals have included the construction of islands or extending the existing shoreline through placement of fill • **Physical Factors** – availability of land; access to shoreline not required, but desirable; availability of water • **Social/Economic factors** -- construction cost range likely from $1 million to >$10 million. This proposed activity (resort-golf) received fairly low submitted scores in a preference survey of Salton Sea users and stakeholders (ranked 20th of 24 activities), who frequently cited concerns regarding the large areas needed to accommodate these facilities, as well as concerns regarding water supply.

2.5.6 Trail-related Activities

Trail-related activities include separate discussions of biking, hiking, and horseback riding.

Biking

Biking includes casual road and mountain biking, generally on equipment provided by local recreation facilities or available through a concessionaire, and biking by enthusiasts who bring their own equipment. The former is most frequently used by guests at local rentals or as an adjunct to local camping and RV use, and is a way to conduct light exercise, relaxation, and sightseeing. The latter is frequently a destination activity in and of itself, with the user seeking a variety of trail types, elevation changes, and difficulty, most often with other enthusiasts and in individual and/or group competitions.

No real history of biking and biking trails exists around the Salton Sea. Any extensive trail network would require the cooperation of various public, private, and/or tribal landowners. Few of the other lake/river recreation areas in Southern California offer much in the way of bike trails. Lake Perris and Diamond Valley Lake have some trails available, and trails in the Lake Havasu area are apparently plentiful but not connected into any kind of regional trail network. Because there are no existing facilities, there is no measurable capacity for the existing activity.

Impacts of Restoration - Biking Trails

Restoration efforts include the development of a Mid-Sea Barrier and Causeway to address salinity levels in the Sea. The Causeway will enhance the accessibility of biking trails by providing a main route along the shoreline. As user support increases, the Authority may implement additional trails through scenic areas and points of interest (i.e., habitat areas, geothermal springs, areas of historic/cultural significance, etc.).

Given the size of the area around the Salton Sea, the large areas of public use land where trail-related activities are frequently pursued, the potential for roadway and other infrastructure development, and the ability to designate multiple use areas that would be amenable to this activity, a projected use level of 400,000 bikers per year is not unreasonable, on as many as 96 new facilities (Appendix C).

Activity/Facility Recommendations – Biking Trails

Recreation opportunities at the Salton Sea for biking can be implemented through improving existing roadway facilities and through building new biking trails and access roads. These types of facilities can vary in size, depending on use levels, land availability, access, and economic viability.

New facilities can be stand-alone or configured so that more than one segment can be combined and used by more practiced enthusiasts. They will most likely be developed in conjunction with other recreation facilities that have a greater long-term potential to generate fee revenue and support the development and maintenance of recreation infrastructure. The results of the recreation opportunities survey conducted for this evaluation indicate that development of all zones are equally supported for these types of trail facilities.

Infrastructure Requirements – Biking Trails

Infrastructure requirements for this activity/facility include the following: parking, waste cans/dumpsters, water, restrooms; interpretive signage; concessionaire-type facilities would also require storage for rental bikes. Since it is expected that these facilities would be developed in conjunction with other recreation facilities, the incremental cost and time to add facilities for bike users may be very small, relative to the overall development.

Key Steps Required for Implementation – Biking Trails

The key steps required to implement biking recreation opportunities are summarized in Table 2.5-11, and include the following:

- Upgrade existing facilities – existing trails areas may or may have not been maintained at a level that will support increased use. After evaluation, these facilities will need to be rehabilitated or rebuilt.
- Identify locations for new facilities – additional trail locations and routes are expected to be required to meet projected recreation needs. Siting of these facilities needs to consider shoreline access, land use and ownership, and separation from incompatible uses and activities.
- Build primary and support infrastructure – new facilities will need to be constructed. Support infrastructure for both upgraded and new facilities, especially utilities, will need to be identified and constructed, depending on the type of facilities required and co-location with other recreation amenities.
- Implement signage needs – signage for trail rules, directions, and interpretive information will need to be developed and placed appropriately. Patrol and search-and-rescue services will also possibly be required, depending on the level of use and trail characteristics.
- The low-tech nature of this type of facilities means that trail areas and associated facilities could be developed quickly and at any time, depending on completion of access and agreements. Concessionaire facilities would require additional infrastructure and would take longer to implement. Development of these facilities is only slightly dependent on Sea restoration.

Implementation Strategies and Factors - Biking

The strategies and factors required to implement biking recreation opportunities are summarized in Table 2.5-11, and include the following:

- Ownership/Responsibility – public lands and public ownership are generally the leaders in developing public-use trails and facilities. Private land along New and Alamo Rivers, land along the Whitewater River, and most of the perimeter of the Sea would be suitable areas. Public acquisition of lands for a perimeter trail may be very difficult. This would likely require negotiated access agreements and cooperative management to implement.
- Management Approach – These facilities would likely have private management for private facilities, with public management or contractual agreements for public facilities. Access agreements would be necessary on non-public lands. Waste pickup and port-a-toilet maintenance, as well as minor trail maintenance, would be the primary management responsibilities; standalone facilities may require an organized patrol and search-and-rescue structure.
- Financing – Funding may be available through public bonds, alternative transportation funding, and/or Congressional appropriations. Trails on private lands may be developed by the private entity for concession or access arrangement. User fees could be a source of operations and maintenance funding.
- Environmental Considerations - Only minimal development is required, except for trail construction. In general, and to increase use and desirability, the trail needs to be in a reasonably aesthetic area or nature trail adjacent to habitat areas. If paved, then these facilities could have some effect on stormwater runoff and natural drainage processes. Waste pick-up would be a function of trail management.
- Physical Factors – These facilities are generally only viable in suitable locations with good views. The need to be entirely disabled-accessible is uncertain.
- Social/Economic Factors – For construction of basic trail facilities and supporting infrastructure, land acquisition not included, the cost range is from less than $100,000 up to $500,000. More elaborate trail systems have a cost range up to $1 million. Cost effective implementation supports the co-location of biking, hiking and horseback riding facilities to reduce facility redundancy. This proposed activity received a relatively high submitted score in a preference survey of Salton Sea users and stakeholders (biking ranked 9th of 20 activities). The development of biking facilities in the North [Zone 1], East [Zone 2] and South [Zone 3] is equally preferred.

Hiking

Hiking includes casual hiking, generally near local recreation facilities, and hiking by enthusiasts who bring their own equipment and enjoy extended hiking over various types of terrain. The former is most frequently conducted by guests at local rentals or as an adjunct to local camping and RV use, and is a way to conduct light exercise, relaxation, and sightseeing. The latter is frequently a destination activity in and of itself, with the user seeking a variety of trail types, elevation changes, and difficulty, most often with other enthusiasts and in individual and/or group competitions.

No real history of hiking and hiking trails exists around the Salton Sea. Any extensive trail network would require the cooperation of various public, private, and/or tribal landowners. Few of the other lake/river recreation areas in Southern California offer much in the way of hiking trails. Lake Perris and Diamond Valley Lake have some trails available, and trails in the Lake Havasu area are apparently plentiful but not connected into any kind of regional trail network. There are no existing facilities at the Sea, therefore, there is no measurable capacity for this existing activity.

Impacts of Restoration – Hiking Trails

Restoration efforts include the development of a Mid-Sea Barrier and Causeway to address salinity levels in the Sea. The Causeway will enhance the accessibility of hiking trails by providing a main route along the shoreline. As user support increases, the Authority may implement additional trails through scenic areas and points of interest (i.e., habitat areas, geothermal springs, areas of historic/cultural significance, etc).

Given the size of the area around the Salton Sea, the large areas of public use land where trail-related activities are frequently pursued, the potential for roadway and other infrastructure development, and the ability to designate multiple use areas that would be amenable to this activity, a projected use level of 400,000 hikers per year is not unreasonable, on as many as 96 new facilities (Appendix C).

Activity/Facility Recommendations – Hiking Trails

Recreation opportunities at the Salton Sea for hiking can be implemented through improving existing trail facilities and through building new hiking trails. These types of facilities can vary in size, depending on use levels, land availability, access, and economic viability.

New facilities can be stand-alone or configured so that more than one segment can be combined and used by more practiced enthusiasts. They will most likely be developed in conjunction with other recreation facilities that have a greater long-term potential to generate fee revenue and support the development and maintenance of recreation infrastructure. The results of the recreation opportunities survey conducted for this evaluation indicate that the following zones are most appropriate for these types of trail facilities: North [Zone 1], East [Zone 2] and South [Zone 3].

Infrastructure Requirements – Hiking Trails

Infrastructure requirements for this activity/facility include the following: parking, waste cans/dumpsters, water, restrooms; interpretive signage. Since it is expected that these facilities would be developed in conjunction with other recreation facilities, the incremental cost and time to add facilities for hikers may be very small, relative to the overall development.

Key Steps Required for Implementation - Hiking

The key steps required to implement hiking recreation opportunities are summarized in Table 2.5-11, and include the following:

- Upgrade existing facilities – existing trails areas may or may have not been maintained at a level that will support increased use. After evaluation, these facilities will need to be rehabilitated or rebuilt.
- Identify locations for new facilities – additional trail locations and routes are expected to be required to meet projected recreation needs. Siting of these facilities needs to consider shoreline access, land use and ownership, and separation from incompatible uses and activities.
- Build primary and support infrastructure – new facilities will need to be constructed. Support infrastructure for both upgraded and new facilities, especially utilities, will need to be identified and constructed, depending on the type of facilities required and co-location with other recreation amenities.
- Implement signage needs – signage for trail rules, directions, and interpretive information will need to be developed and placed appropriately. Patrol and search-

and-rescue services will also possibly be required, depending on the level of use and trail characteristics.

- The low-tech nature of this type of facilities means that trail areas and associated facilities could be developed quickly and at any time, depending on completion of access and agreements. Concessionaire facilities would require additional infrastructure and would take longer to implement. Development of these facilities is only slightly dependent on Sea restoration.

Implementation Strategies and Factors - Hiking

The strategies and factors required to implement hiking recreation opportunities are summarized in Table 2.5-11, and include the following:

- Ownership/Responsibility – Public lands and ownership are generally leaders in developing public-use trails and facilities. Private lands along the New and Alamo Rivers, land along the Whitewater River, and most of the perimeter of the Sea would be suitable areas. Public acquisition of lands for a perimeter trail may be very difficult. This would likely require negotiated access agreements and cooperative management to implement.
- Management Approach – Private management is most likely for private facilities, with public management or contractual agreement for public facilities. Access agreements would be necessary on non-public lands. Waste pickup and port-a-toilet maintenance, as well as minor trail maintenance, would be the primary management issues.
- Financing - Public bonds, alternative transportation funding, and congressional appropriations are potential funding sources. Trails on private lands may be developed by the private entity for concession or access arrangement. User fees could be a source of operations/maintenance funding.
- Environmental Considerations - Only minimal development is required, except for trail construction. This type of facility generally needs to be in a reasonably aesthetic area or a nature trail to habitat areas. If paved, then some effect on stormwater runoff and natural drainage processes must be considered. Need waste pickup (could have port-a-toilets or water).
- Physical Factors – Only occurs in suitable locations for good views. Whether the facility needs to be entirely disabled-accessible is uncertain.
- Social/Economic Factors – Basic trail facilities and supporting infrastructure, sans land acquisition, costs range from less than $100,000 up to $500,000. More elaborate trail systems and/or horse facilities, if combined, have a cost range up to $1 million. Cost effective implementation supports the co-location of biking, hiking and horseback riding facilities to reduce facility redundancy. This proposed activity received a relatively high submitted score in a preference survey of Salton Sea users and stakeholders (hiking ranked 4th of 20 activities). The development of hiking facilities in the North [Zone 1], East [Zone 2] and South [Zone 3] is equally preferred.

Horseback Riding

Much more than biking or hiking, horseback riding requires extensive capital commitment for facilities and maintenance to be successful. Use patterns include casual users, generally on equipment provided by local recreation facilities or available through a concessionaire, and use by enthusiasts who bring their own horses and equipment. The former is most frequently used

by guests at local rentals or as an adjunct to local camping and RV use, and is a way to conduct light exercise, relaxation, and sightseeing. The latter is frequently a destination activity in and of itself, with the user seeking a variety of trail types, elevation changes, and difficulty, most often with other enthusiasts and in individual and/or group competitions.

No real history of horseback riding trails exists around the Salton Sea. Any extensive trail network would require the cooperation of various public, private, and/or tribal landowners. Few of the other lake/river recreation areas in Southern California offer much in the way of horseback trails. Lake Perris and Diamond Valley Lake have some trails available. There are no existing facilities, therefore, there is no existing capacity for this activity.

Impacts of Restoration – Horseback Riding

Restoration efforts include the development of a Mid-Sea Barrier and Causeway to address salinity levels in the Sea. The Causeway will enhance the accessibility of horseback riding trails by providing a main route along the shoreline. As user support increases, the Authority may implement additional trails through scenic areas and points of interest (i.e., habitat areas, geothermal springs, areas of historic/cultural significance, etc).

Given the size of the area around the Salton Sea, the large areas of public use land where trail-related activities are frequently pursued, the potential for roadway and other infrastructure development, and the ability to designate multiple use areas that would be amenable to this activity, a projected use level of 400,000 riders per year is not unreasonable, on as many as 96 new facilities (Appendix C).

Activity/Facility Recommendations – Horseback Riding

Recreation opportunities at the Salton Sea for horseback riding can be implemented through building new riding trails and access points. These types of facilities can vary in size, depending on use levels, land availability, access, and economic viability.

New facilities can be stand-alone or configured so that more than one segment can be combined and used by more practiced enthusiasts. They will most likely be developed in conjunction with other recreation facilities that have a greater long-term potential to generate fee revenue and support the development and maintenance of recreation infrastructure. The results of the recreation opportunities survey conducted for this evaluation indicate that the development of facilities in the East [Zone 2] is preferred.

Infrastructure Requirements – Horseback Riding

Infrastructure requirements for this activity/facility include the following: parking, waste cans/dumpsters, water, restrooms; interpretive signage; concessionaire-type facilities would also require boarding and care for rental horses and resident animals. Since it is expected that these facilities would be developed in conjunction with other recreation facilities, the incremental cost and time to add facilities for riders may be very small, relative to the overall development.

Key Steps Required for Implementation - Horseback Riding

The key steps required to implement horseback riding recreation opportunities are summarized in Table 2.5-11, and include the following:

- Identify locations for new facilities – new trail locations are expected to be required to meet projected recreation needs. Siting of these facilities needs to consider shoreline access, land use and ownership, and compatibility with other nearby and co-located activities and facilities.

- Build primary and support infrastructure – new facilities will need to be constructed. Support infrastructure for new facilities, especially utilities, will need to be identified and constructed.
- Implement signage needs – signage for trail rules, directions, and interpretive information will need to be developed and placed appropriately. Patrol and search-and-rescue services will also possibly be required, depending on the level of use and trail characteristics.
- The relatively low-tech nature of these facilities means that trail areas and associated facilities could be developed quickly and at any time, depending on completion of access and agreements;. Concessionaire horse facilities would require additional infrastructure and would take longer to implement. This activity is only slightly dependent on Sea restoration.

Implementation Strategies and Factors - Horseback Riding

The strategies and factors required to implement horseback riding recreation opportunities are summarized in Table 2.5-11, and include the following:

- Ownership/Responsibility – Public lands and ownership are generally leaders in developing public-use trails and facilities. Private lands along the New and Alamo Rivers, land along the Whitewater River, and most of the perimeter of the Sea would be suitable areas. Public acquisition of lands for perimeter trail may be very difficult. This would likely require negotiated access agreements and cooperative management to implement. Horse facilities would most likely be developed by a private entity/concessionaire.
- Management Approach – Private management is most likely for private facilities, with public management or contractual agreement for public facilities. Access agreements would be necessary on non-public lands. Waste pickup and port-a-toilet maintenance, and minor trail maintenance, would be management concerns; NPS runoff and waste management are also a concern for horse facilities.
- Financing - Public bonds, alternative transportation funding, and congressional appropriations are potential funding sources for public facilities. Trails on private lands may be developed by the private entity for concession or access arrangement. User fees could be a source of operations/maintenance funding for either type of facility. Concessionaire horseback trails could have a more defined maintenance and fee structure to support operations.
- Environmental Considerations - Only minimal development is required, except for trail construction. Trails need to be in reasonably aesthetic areas or a nature trail to habitat areas. If extensive grading is required, then there may be some effect on stormwater runoff and natural drainage processes. These facilities would need waste pickup (i.e., port-a-toilets).
- Physical Factors – these facilities would only occur in suitable locations for good views.
- Social/Economic Factors – Basic trail facilities and supporting infrastructure (no land acquisition included) has a cost range from less than $100,000 up to $500,000. For more elaborate trail systems and/or horse facilities, the cost range is up to $1 million. Cost effective implementation supports the co-location of biking, hiking and horseback riding facilities to reduce facility redundancy. The proposed activity received a relatively average submitted score in a preference survey of Salton Sea

users and stakeholders (horseback riding ranked 13th of 20 activities). The development of horseback riding facilities in the East [Zone 2] is preferred.

Table 2.5-11. Summary of Conceptual Plans/Implementation – Trail-Related Activities (Biking, Hiking, Horseback Riding).

Activity	• Trail-related - biking, hiking, horseback riding
Type of Facilities Projected	• Bike-riding trails; hiking trails; horseback riding trails
Location (Zone[s])	• Bike trails – North [Zone 1], East [Zone 2], and South [Zone 3] • Hiking trails - North [Zone 1], East [Zone 2], and South [Zone 3] • Horseback trails – East [Zone 2]
Number of Facilities	• Bike trails – 96 new • Hiking trails – 96 new • Horseback trails – 96 new
Support Facilities Required	• Parking, waste cans/dumpsters, water, restrooms; interpretive signage; concessionaire-type facilities would also require storage for rental bikes or stables and associated structures for keeping horses, the latter requiring additional infrastructure such as utilities (water, power, septic, trash, etc.)
Key Steps to Implementation	• Upgrade/rehabilitate existing trail facilities • Identify locations for trail facilities • Build support infrastructure • Implement signage needs • Low-tech nature of facilities means trail areas and associated facilities could be developed quickly and at any time, depending on completion of access and agreements; concessionaire horse facilities require additional infrastructure and would take longer to implement; only slightly dependent on Sea restoration
Implementation Factors	• **Entity Responsible/Ownership** – public lands and ownership are generally leaders in developing public-use trails and facilities. Private lands along New and Alamo Rivers, land along the Whitewater River, and most of the perimeter of the Sea would be suitable areas. Public acquisition of lands for perimeter trail may be very difficult. Would likely require negotiated access agreements and cooperative management to implement. Horse facilities would most likely be developed by a private entity/concessionaire. • **Management Approach** – private management likely for private facilities, with public management or contractual agreement for public facilities; access agreements necessary on non-public lands; waste pickup and port-a-toilet maintenance, minor trail maintenance; NPS runoff and waste management a concern for horse facilities • **Financing** – public bonds, alternative transportation funding, congressional appropriations; trails on private lands may be developed by the private entity for concession or access arrangement; user fees could be a source of operations/ maintenance funding; horseback trails could have a more defined maintenance and fee structure • **Environmental Factors** – only minimal development is required, except for trail construction. Needs to be in reasonably aesthetic area or nature trail to habitat areas. If paved, then some effect on stormwater runoff and natural drainage processes. Coordination of waste pick-up will be necessary. • **Physical Factors** – only occur in suitable locations for good views. Need to be entirely disabled-accessible is uncertain. • **Social/Economic factors** – basic trail facilities and supporting infrastructure cost range from less than $100,000 up to $500,000. More elaborate trail systems

	and/or horse facilities - cost range up to $1 million. Cost effective implementation supports the co-location of these facilities to reduce facility redundancy. These proposed activities received a range of relatively high submitted scores in a preference survey of Salton Sea users and stakeholders (hiking ranked 4th of 20 activities; biking ranked 9th of 20 activities; horseback riding ranked 13th of 20 activities).

2.5.7 Wildlife-related Activities

Wildlife-related activities include separate discussions of bird watching/photography and hunting.

Bird watching/Photography

Bird watching and wildlife-related photography are historically some of the most popular activities at the Salton Sea. The Sea and the wildlife-rich wetlands areas around it draw thousands of visitors every year. The Salton Sea National Wildlife Refuge is one of the most popular areas, and wetland areas associated with the New, Alamo, and Whitewater Rivers also offer habitat areas suitable for this activity.

Birdwatchers are frequently campers who spend extended periods of time in and around areas where wildlife can be observed. Some return to the same area multiple times, while others camp near the center of several nearby areas and visit each.

These types of activities require separation from many types of noisy or disturbing activities, such as motorized boating, personal watercraft use, and water contact areas where large numbers of people are present. It also requires separation from other activities that use the same types of habitat, but are incompatible for safety reasons, such as hunting and horseback riding. Lower impact activities that can take place in similar habitats include kayaking, hiking, and fishing.

Bird watching and wildlife-related photography are popular activities at almost any lake or river recreation venue in Southern California. Extensive opportunities are available in the Lake Havasu area, including several national wildlife refuges associated with the Colorado River. Some of thee types of opportunities are also available at Lake Elsinore and Lake Perris, although the proximity of powerboats and watercraft on these venues reduces the opportunities for wildlife viewing. At Diamond Valley Lake, restrictions on the use of motorized water recreation allow for more opportunities for wildlife viewing. The estimated projected capacity of bird watching/photography for Salton Sea is 60,000 to 120,000 visitors per year (Appendix C).

Impacts of Restoration – Bird watching/Photography

Restoration of the Salton Sea would open up new opportunities for wildlife viewing by improving water quality and stabilizing Sea levels. This increased use would lead to the need for restoring existing facilities and expanding existing or building additional facilities to meet anticipated demand. Development of 8 new platform/blind/trail facilities would provide sufficient resources to sustain the projected annual capacity (Appendix C).

Activity/Facility Recommendations – Bird watching/Photography

Recreation opportunities at the Salton Sea for bird watching and wildlife-related photography can be implemented through improving existing trails and viewing structures, and through

building new trails, platforms, and viewing structures. These types of facilities can vary in size, depending on use levels, land availability, access, and economic viability.

The results of the recreation opportunities survey conducted for this evaluation, combined with information regarding historic and existing facilities for this type of activity, indicate that development of all zones are supported for this type of activity, but development of facilities in the North [Zone 1], East [Zone 2], and South [Zone 3] are equally preferred. These zones correspond to the primary locations of the existing wetlands areas around the Sea, associated with freshwater inflows from the New, Alamo, and Whitewater rivers, and are the areas that are the most likely to be enhanced with additional wetlands development in the future.

Infrastructure Requirements – Bird watching/Photography

Infrastructure requirements for this activity/facility include the following: trails, blinds, observation towers/platforms/facilities, parking, waste cans/dumpsters, restrooms. Most of these facilities are simple and require very little capital investment and maintenance.

Key Steps Required for Implementation - Bird watching/Photography

The key steps required to implement bird watching and wildlife-related photography recreation opportunities are summarized in Table 2.5-12, and include the following:

- Upgrade existing facilities – existing bird watching facilities and trails have not been maintained at a level that will support increased use or a modified Sea elevation. These facilities will need to be rehabilitated or rebuilt.
- Identify locations for new facilities – additional viewing facilities and trails are expected to be required to meet projected recreation needs. Siting of these facilities needs to consider shoreline access, land use and ownership.
- Build primary and support infrastructure – new facilities will need to be constructed. Support infrastructure for both upgraded and new facilities will need to be identified and constructed.
- Implement signage needs – Signage for separating bird watching activities from other wildlife-related activities (hunting) and other incompatible uses will likely be necessary, for safety purposes and to maximize the benefit of this activity. Signage regarding viewing areas and policies, routing and safety, and environmental/education information will likely be required.
- The low-tech nature of these facilities means that trails and viewing facilities could be developed quickly and at any time. Large, complex structures would take slightly longer to implement.

Implementation Strategies and Factors - Bird watching/Photography

The implementation strategies and factors required for bird watching and wildlife-related photography recreation opportunities are summarized in Table 2.5-12, and include the following:

- Ownership/Responsibility – This activity could occur on public, private or tribal lands, with ownership associated with land ownership type.
- Management Approach – Private management is anticipated for private facilities. Tribal or contracted private ownership is likely for tribal lands, although examples of public/tribal cooperative ownership and management exist. Publicly-managed facilities are most likely in federal, state, or municipal recreation areas, unless the management activity is contracted to a private or non-profit firm.

- Financing – Implementation on private lands would likely be through private financing. On public lands, a private/public cooperative agreement, with contractual or concession rights, could be implemented. Public funding could come through habitat restoration grants, user fees, and/or various environmental organization grants. User fees could be used to provide a cash stream for O&M activities.
- Environmental Considerations – This type of facility will only require minimal development of access points, trails, and parking. Construction of simple or complex viewing blinds, platforms or towers could be included. This activity would be enhanced by proposed habitat restoration and creation actions at the Sea.
- Physical Factors – This activity is sensitive to the effects of unsuitable adjacent land uses. These use areas will need to be physically buffered and separate from hunting areas, which are suitable in similar habitat types, and OHV use. They would also need to be physically separate from motorized boating and PWC uses.
- Social/Economic Factors – Basic facilities construction cost in the range of less than $100,000, with more complex structures costing up to $500,000 (not including land acquisition). This proposed activity received the highest submitted scores in a preference survey of Salton Sea users and stakeholders (ranked 1st of 20 activities). Development of facilities in the North [Zone 1], East [Zone 2], and South [Zone 3] were equally preferred, corresponding to the location of existing wetlands areas, and the likely potential locations of future expanded habitat restoration activities.

Table 2.5-12. Summary of Conceptual Plans/Implementation – Bird watching/Photography.

Activity	• Wildlife-Related - Bird watching/Photography
Type of Facilities Projected	• Trails; wildlife viewpoints; wildlife viewing structures
Location (Zone[s])	• North [Zone 1], East [Zone 2], and South [Zone 3]
Number of Facilities	• 8 new platforms/blinds/trails
Support Facilities Required	• Trails, blinds, observation towers/platforms/facilities, parking, waste cans/dumpsters, restrooms
Key Steps to Implementation	• Identify locations for trail facilities, viewpoints, and structures • Build support infrastructure • Implement signage needs • Low-tech nature of facilities means trails and facilities could be developed quickly and at any time; complex structures would take slightly longer to implement
Implementation Factors	• **Entity Responsible/Ownership** – could occur on public, private or tribal lands, with ownership associated with land ownership type • **Management Approach** – private management for private facilities; tribal or contracted private ownership for tribal lands, although examples of public/tribal cooperative ownership and management exist. Publicly-managed facilities in federal, state, or municipal recreation areas, unless management is contracted. • **Financing** – implementation on private lands would likely be through private financing. On public lands, a private/public cooperative agreement, with contractual or concession rights, could be implemented. Funding could come through habitat restoration grants, user fees, and/or various environmental organization grants. • **Environmental Factors** – will only require minimal development of access points, trails, etc. Construction of simple or complex viewing blinds, platforms or towers could be included. Activity would be enhanced by habitat restoration/creation actions. • **Physical Factors** – sensitive to the effects of unsuitable adjacent land uses; need

	to be physically buffered and separate from hunting areas (which are suitable in similar habitat types) and OHV use. Also need to be physically separate from motorized boating and personal watercraft uses. • **Social/Economic factors** – basic facilities construction cost range <$100,000, with more complex structures costing up to $500,000. This proposed activity received the highest submitted scores in a preference survey of Salton Sea users and stakeholders (ranked 1st of 20 activities).

Hunting

Hunting activities have been conducted in the wetlands areas around the Salton Sea for decades. The Wister Waterfowl Area near Niland attracts large numbers of waterfowl hunters each year. There are also a number of private duck and waterfowl hunting clubs operating around the Sea. Dove hunting is also practiced on some nearby uplands areas. Hunting activities currently compete with area commercial and residential development for access to lands. The incompatibility of these different uses points to the need for a comprehensive planning effort to allow both types of use to proceed without conflicts.

Hunting is currently conducted at some similar lake facilities in Southern California, including Lake Perris, where an adjacent upland area is available. Very little in the way of hunting facilities are available at other regional venues, including Lake Elsinore, Lake Arrowhead, Diamond Valley Lake and Lake Havasu. Hunting clubs within Salton Sea area assist in maintaining suitable habitat to support this activity. Hunting areas at Salton Sea are provided through local hunting clubs and the Sonny Bono NWR, as regulated by the CDFG. The extensive wetlands adjacent to the Salton Sea's inflowing rivers, with the potential to greatly expand this resource as part of watershed cleanup and water quality improvement initiatives, point to an even greater future potential for this activity. Hunting users include both one-time day users who combine hunting with other activities during their stay at the Sea, and individuals and groups that make hunting the focal point of their stay. The estimated capacity of the existing facilities is 10,000 use-days per year (Appendix C).

Impacts of Restoration - Hunting

Restoration of the Salton Sea would open up new opportunities for hunting use by expanding wetlands creation and restoration efforts around the Sea. This increased use would lead to the need for improving existing hunting facilities and building additional facilities to meet anticipated demand. Up to 4 new facilities are expected to be supported with projected annual capacity of 120,000 use-days, which will be limited by California hunting regulations (Appendix C).

Activity/Facility Recommendations – Hunting

Recreation opportunities at the Salton Sea for hunting can be implemented through improving existing hunting facilities, and through building new hunting trails and blinds. These types of facilities can vary in size, depending on use levels, land availability, access, and economic viability.

The results of the recreation opportunities survey conducted for this evaluation, combined with information regarding historic and existing facilities for this type of activity, indicate that survey respondents supported the development of facilities for this activity in the South [Zone 3].

Infrastructure Requirements – Hunting

Infrastructure requirements for this activity/facility include the following: parking, waste cans/dumpsters, water, restrooms, animal waste disposal, license kiosk/board, and signage/safety requirements.

Key Steps Required for Implementation - Hunting

The key steps required to implement hunting recreation opportunities are summarized in Table 2.5-13, and include the following:

- Identify locations for trail facilities and structures – additional trail facilities and blinds/concealment structures are expected to be required to meet projected recreation needs. Siting of these facilities needs to consider access to wetlands/river areas and other suitable hunting habitats, land use and ownership, and compatibility with adjacent and other uses.
- Build primary and support infrastructure – new facilities will need to be constructed. Support infrastructure for both upgraded and new facilities will need to be identified and constructed.
- Implement signage needs – Signage for separating hunting activities from other wildlife-related activities (bird watching/photography) and other incompatible uses will likely be necessary, for safety purposes and to maximize the benefit of this activity. Signage regarding hunting areas and policies, routing and safety, and environmental/education information will likely be required.
- Implement control, monitoring, and safety systems – multiple uses of the Sea will entail the need to provide appropriate signage, oversight, training, and safety services to ensure public safety and make the recreation experience safe and enjoyable. Patrol, search-and-rescue, and medical services will also likely be required.
- This activity could occur at any time, as it is currently being conducted and only slightly dependent on lake restoration, although the activity would likely be enhanced by habitat restoration/creation actions planned at the Sea.

Implementation Strategies and Factors - Hunting

The strategies and factors required to implement hunting recreation opportunities are summarized in Table 2.5-13, and include the following:

- Ownership/Responsibility – Facilities could be implemented on public, private or tribal lands, with ownership generally associated with land ownership type.
- Management Approach – These facilities would likely have private management for the private facilities, and would be publicly-managed in federal, state, or municipal recreation areas, unless the management responsibility is contracted to a private firm. Tribal or contracted private ownership is likely for tribal lands, although examples of public/tribal cooperative ownership and management exist. Onsite management and provision of safety/medical services likely required for any of these facilities to ensure public safety and make the recreation experience safe and enjoyable.
- Financing - Implementation on private lands would likely be through private financing. On public lands, a private/public cooperative agreement, with contractual or concession rights, could be implemented. Funding could come

through habitat restoration grants, license and use fees, and/or various hunting organization grants.

- Environmental Considerations – Facilities will have to have fairly extensive areas of wildlife habitat available, and not be proximal to housing, bird watching areas, and other incompatible uses. This use may only be possible on public lands due to adjacent use constraints. Use will only require minimal development of access points, trails, etc. Construction of simple or complex hunting blinds, platforms or towers could be included. This activity would be enhanced by habitat restoration/creation actions currently contemplated for the Salton Sea.
- Physical Factors – This activity is sensitive to the effects of unsuitable adjacent land uses, and needs to be physically buffered and separate from bird watching/photography areas, which are suitable in similar habitat types, and OHV use, for example. This activity also needs to be physically separate from motorized boating and personal watercraft uses.
- Social/Economic Factors – Basic facilities can be implemented at a cost range of less than $100,000, with more complex structures costing up to $500,000 (construction costs, not including land acquisition). This proposed activity received a relatively low submitted score in a preference survey of Salton Sea users and stakeholders (ranked 16th of 20 activities). Development of facilities South [Zone 3] are preferred, corresponding to the location of existing wetlands areas, and the potential locations of future expanded habitat restoration activities.

Table 2.5-13. Summary of Conceptual Plans/Implementation – Hunting.

Activity	• Wildlife-Related – Hunting
Type of Facilities Projected	• Designated hunting areas
Location (Zone[s])	• South [Zone 3]
Number of Facilities	• 4 new
Support Facilities Required	• Parking, waste cans/dumpsters, water, restrooms, animal waste disposal, license kiosk/board, safety requirements/signage
Key Steps to Implementation	• Identify locations for trail facilities and structures • Build support infrastructure • Implement signage needs • Implement control, monitoring, and safety systems • Could occur at any time, only slightly dependent on lake restoration, although activity would likely be enhanced by habitat restoration/creation actions
Implementation Factors	• **Entity Responsible/Ownership** – could occur on public, private or tribal lands, with ownership associated with land ownership type • **Management Appro**ach – private management for private facilities; tribal or contracted private ownership for tribal lands, although examples of public/tribal cooperative ownership and management exist. Publicly-managed facilities in federal, state, or municipal recreation areas, unless management is contracted. • **Financing** – implementation on private lands would likely be through private financing. On public lands, a private/public cooperative agreement, with contractual or concession rights, could be implemented. Funding could come through habitat restoration grants, license and use fees, and/or various hunting organization grants. • **Environmental Factors** – will have to have fairly extensive areas of wildlife habitat and not proximal to housing, etc. May only be possible on public lands due to adjacent use constraints. Will only require minimal development of access points, trails, etc. Construction of simple or complex hunting blinds, platforms or

	towers could be included. Activity would be enhanced by habitat restoration/ creation actions. • **Physical Factors** – sensitive to the effects of unsuitable adjacent land uses; need to be physically buffered and separate from bird watching/photography areas and OHV use. Also need to be physically separate from motorized boating and personal watercraft uses. • **Social/Economic factors** – basic facilities construction cost range <$100,000, with more complex structures costing up to $500,000. This proposed activity received a relatively low submitted score in a preference survey of Salton Sea users and stakeholders (ranked 16th of 20 activities). Activity enhanced by co-locating existing wetlands areas and potential location of future expanded restoration activities.

2.5.8 Water Contact Activities

Water contact activities include separate discussions of personal watercraft use, swimming/sunbathing, and windsurfing.

Personal Watercraft Use

Personal watercraft [PWC] use requires similar infrastructure necessary for motorized boating, albeit less intensive. Paved boat ramps, small piers, and parking areas are the main need. PWC do have the potential to be disruptive and dangerous for other recreational uses, such as bird watching, kayaking, and swimming, and should be separated from these other activities.

There is minimal to no PWC use currently at the Sea due to the poor water quality. Existing launch facilities and support infrastructure are also in disrepair. As discussed in Section 2.1.2, there are eight existing launch areas.

PWC use is currently popular at many similar lake facilities in the region, particularly Lake Havasu, Lake Mead, and Lake Elsinore. Each of these lakes enjoys steady use by PWC users, with peak usage coming on holiday weekends and summer periods. A number of rental businesses are present at each of these lakes. The Sea has approximately 10 times the surface area of Lake Havasu, but only one-fifth the shoreline length, so there is plenty of open water area for users once out on the lake, but the availability of shoreline coves and beaches, and local on-water storage at the Sea is low, compared to Lake Havasu. From this standpoint, the Sea is more similar to local lakes where PWC use is popular, such as Lake Perris and Lake Elsinore. Each of these lakes has less on-water storage available. Most users launch for one-day activities. It is likely that future use at the Sea will involve primarily day use and rentals, as marina development will be constrained by shoreline availability and land use restrictions. Marina use will also be lower than in similar use areas due to the higher water salinity and attendant maintenance costs at the Salton Sea. Users will be more inclined to take their craft out of the water when not being used due to individual costs incurred as a result of prolonged exposure to a saline environment. Reasonable capacity could accommodate 1.5 to 2.5 million annual launches, necessitating renovation of the existing eight (8) sites and construction of approximately 12 new facilities (Appendix C).

Impacts of Restoration – Personal Watercraft Use

Restoration of the Salton Sea would dramatically improve conditions for personal watercraft use by improving water quality and stabilizing Sea levels. The likely increased demand would lead to the need for restoring existing launch facilities and expanding existing or building additional facilities to meet anticipated demand. PWC could be launched and rented from the same new facilities developed for motorized boating. Up to 20 restored/new facilities are expected to be supported, with an average annual capacity of 200,000 launches (Appendix C).

Activity/Facility Recommendations – Personal Watercraft

Recreation opportunities at the Salton Sea for PWC use can be implemented through improving existing launch facilities and marinas, and through building new launch facilities/marinas. These types of facilities can vary in size, depending on use levels, land availability, access, and economic viability. Because PWC are much smaller than powerboats, smaller facilities can be developed primarily for their use, as appropriate.

The results of the recreation opportunities survey conducted for this evaluation, combined with information regarding historic and existing facilities for this type of activity, indicate that development of facilities in all zones are supported by survey respondents, but development of launch/marina of facilities is preferred in the East [Zone 2] and West [Zone 4].

Infrastructure Requirements – Personal Watercraft

Infrastructure requirements for this activity/facility include the following: parking areas; ingress/egress areas; utilities (i.e., power, water, sewer, waste disposal, and communications, etc.); provisions; and safety equipment and facilities. Physical requirements for the launch facilities include constructed concrete ramps, piers/docks for tie-ups, maintenance/fuel facilities to service this watercraft, general storage, and paved parking areas. Some minor pier/jetty construction and shoreline hardening would likely be required to protect the facilities from wave action and erosion. If rental facilities are included than storage, repair and maintenance facilities are required.

Key Steps Required for Implementation – Personal Watercraft

The key steps required to implement PWC recreation opportunities are summarized in Table 2.5-14, and include the following:

- Upgrade existing facilities – existing launch areas/marinas have not been maintained at a level that will support increased use or a modified lake elevation. These facilities will need to be rehabilitated or rebuilt.
- Identify locations for new facilities – additional launch/marina locations are expected to be required to meet projected recreation needs. Siting of these facilities needs to consider shoreline access, land use, ownership, safety for other activities (i.e. swimming, kayaking), wildlife habitat
- Build primary and support infrastructure – new facilities will need to be constructed. Support infrastructure for both upgraded and new facilities, especially utilities, will need to be identified and constructed.
- Improve transportation network – access roadways and provision of adequate ingress/egress, parking, and maneuvering areas is required to support increased use levels.
- Implement control, monitoring, and safety systems – multiple uses of the Sea will entail the need to provide appropriate signage, oversight, training, and safety

services to ensure public safety and make the recreation experience safe and enjoyable. Patrol and search-and-rescue services will also likely be required.

- Substantial capital cost, planning, and construction requirements mean that facilities will have long lead times; will most likely occur after restoration is in place and Sea condition demonstrably improved

Implementation Strategies and Factors – Personal Watercraft

The strategies and factors required to implement personal watercraft recreation opportunities are summarized in Table 2.5-14, and include the following:

- Ownership/Responsibility – Ownership and construction of new facilities is likely to be private. Existing public launches will need to be upgraded or expanded, but public lands such as the wildlife refuge will not likely be developed for this use. This activity requires water access.
- Management Approach – These facilities would likely have private management for the private facilities, and would be publicly-managed in state, or municipal recreation areas, unless the management responsibility is contracted to a private firm. Onsite management and provision of safety/medical services likely required for any of these facilities to ensure public safety and make the recreation experience safe and enjoyable.
- Financing - Private facilities would be privately financed. The development/improvement of public facilities would likely be constrained by capital cost availability, given the status of public budgets in the immediate past. Both public and private types of facilities would have moderate to substantial initial capital requirements depending on if the launch/marina facility was developed for a variety of vessels, or primarily for smaller watercraft. Marina/launch facilities would likely have launch or user fees as a funding stream to support O&M costs.
- Environmental Considerations – Moderate to extensive facility construction would be required for this activity. Shoreline and nearshore modifications would be required to construct the primary layout of the piers, launch facilities, and access to the Sea. This activity could be supported in facilities developed for other boating access. Construction could involve the placement of piers, breakwaters, and jettys. It would include the widening and improvement of access roadways to reach the facility. Improvement or installation of utilities (power, water, sewer, waste handling, and communications) will be required in almost all cases, as existing facility support is outdated and likely not sized to support assumed demands. Storage facilities would be required for fuel, equipment, and provisions. Areas would also need to be designated for maintenance, cleanup, parking, and ingress/egress.
- Physical Factors – The construction may involve fixed or floating pier structures and docks. Floating docks on piers would give the facility more flexibility compared to fixed structures, if Sea levels continue to fall in the future. Safety requires the physical separation of major use activities (power boats, sailboats, kayaks, swimming, etc.), requiring marked charts, signage, etc., to ensure public safety and make the recreation experience safe and enjoyable. Infrastructure requirements for the multi-purpose marinas could take up large areas of land, both along the ingress/egress corridors and around the main facilities. On the Sea, PWC areas should be located away from other non-compatible uses such as hunting, bird watching, and kayaking.

- Social/Economic Factors – A basic boat launch facility with small piers may have a construction cost range of $100,000 to $500,000. Major marina facilities may have a cost range of greater than $10 million. In order to be cost effective, facilities for PWC use can be co-located with boating facilities. This proposed activity received a relatively low submitted score in a preference survey of Salton Sea users and stakeholders (ranked 15th of 20 activities). Development of facilities in the all zones is supported, but facilities in the East [Zone 2] and West [Zone 4] are equally preferred.

Table 2.5-14. Summary of Conceptual Plans/Implementation – Personal Watercraft Use.

Activity	• Water Contact - Personal Watercraft
Type of Facilities Projected	• Improved/restored or new launch sites (constructed ramps)/marinas
Location (Zone[s])	• East [Zone 2] and West [Zone 4]
Number of Facilities	• 8 existing ramps/marinas improved/restored; 12 new ramps/marinas
Support Facilities Required (at each)	• Parking area; ingress/egress areas; maintenance/repair/storage areas; utilities; provision facilities; communications; safety facilities and equipment
Key Steps to Implementation	• Upgrade existing facilities • Identify locations for new facilities • Build primary and support infrastructure • Improve transportation network • Implement control, monitoring, and safety systems • Substantial capital cost, planning, and construction requirements mean that facilities will have long lead times; will most likely occur after restoration is in place and Sea condition demonstrably improved
Implementation Factors	• **Entity Responsible/Ownership** – likely private, except in state or municipal recreation areas; requires water access • **Management Approach** – private management for private facilities; publicly-managed facilities in state or municipal recreation areas, unless management is contracted; onsite management and provision of safety/medical services only required when associated with rental facilities • **Financing** – private facilities would be privately financed; development/ improvement of public facilities would likely be constrained by capital cost availability; both public and private types would have moderate to substantial initial capital requirements; both types would likely have user fees as a funding stream for O&M costs • **Environmental Considerations** – moderate to extensive facility construction; shoreline and nearshore modification; placement of piers, breakwaters, and jettys; construction and improvement of access roadways; improvement or installation of utilities; storage facilities required; areas designated for maintenance, cleanup, parking, ingress/egress • **Physical Factors** – floating docks on piers give more future flexibility compared to fixed structures, if Sea levels continue to fall in the future; safety requires physical separation of major use activities requiring marked charts, signage, etc.; infrastructure requirements for marinas will take up small to large areas of land, both along ingress/egress corridors and around the main facilities • **Social/Economic factors** – basic boat launch with small piers, cost range $100,000 to $500,000; major marina facilities, cost range >$10 million. Co-location of PWC and boating facilities will reduce the cost for implementation. This proposed activity received a relatively low submitted score in a preference survey of Salton Sea users and stakeholders (ranked 15th of 20 activities).

Swimming/Sunbathing

Swimming and sunbathing recreational opportunities require an open area for sitting and picnicking and a safe and sanitary swimming area. Open areas can be beaches or lawns. Swimming areas are usually located in areas protected from excessive waves and currents and typically have shallow and deep swimming areas.

There is currently no swimming occurring at the Sea due to the poor water quality. Sunbathing likely occurs at the SRA and other parks but is not necessarily associated with the shoreline. Swimming and sunbathing are very popular at other regional lakes, such as Lake Havasu, Lake Mead, and Lake Elsinore. Swimming occurs at developed beaches and associated with boating of all kinds around the lakes. Swimming at the Sea could occur in the freshwater or the saltwater portion of the restored Sea, but would likely be more popular in the freshwater portion if there were open water areas suitable. Swimming would not likely be popular in vegetated or wetland areas, such as the wildlife refuge, and would not be compatible with wildlife viewing and conservation. The estimated maximum capacity of the existing facilities is unknown, although it is probable that there is no use by swimmers at the present time.

Impacts of Restoration – Swimming/Sunbathing

Restoration of the Salton Sea would dramatically improve conditions for swimming and sunbathing by improving water quality and stabilizing Sea levels. The likely increased demand would lead to the need for restoring existing beaches and swimming areas, and expanding existing or building additional facilities to meet anticipated demand. Up to 20 restored/new beach and swimming areas are expected to be supported, with an annual projected capacity of 50,000 swimmers and sunbathers (Appendix C).

Activity/Facility Recommendations – Swimming/Sunbathing

Recreation opportunities at the Salton Sea for swimming and sunbathing can be implemented through improving existing beaches, and through building new beaches and swimming areas. These types of facilities can vary in size, depending on use levels, land availability, access, and economic viability. Beach facilities can be developed in association with, but separate from, boat launches. They can also be developed in associated with resort/lodging development.

The results of the recreation opportunities survey conducted for this evaluation, combined with information regarding historic and existing facilities for this type of activity, indicate that the all zones are supported for beach and swimming facilities, with respondent preference noted in the East [Zone 2] and West [Zone 4].

Infrastructure Requirements – Swimming/Sunbathing

Infrastructure requirements for this activity/facility include the following: parking areas; open areas (beach or lawn); designated swimming area; utilities (i.e., water, sewer/septic, waste disposal, etc.); picnicking tables; and safety equipment and facilities. Physical requirements for the beach and swimming area include paved or unpaved parking areas, swallow sloping beach, and semi-protected swimming area. These recreation opportunities also require access to the shoreline of the Sea. A boom or jetty would be required to protect the facilities from wave action and motorized vessels.

Key Steps Required for Implementation – Swimming/Sunbathing

The key steps required to implement swimming and sunbathing recreation opportunities are summarized in Table 2.5-15, and include the following:

- Upgrade existing facilities – existing beaches have not been maintained at a level that will support increased use or a modified lake elevation. These facilities will need to be rehabilitated and cleaned up.
- Identify locations for new facilities – additional beach and swimming area locations are expected to be required to meet projected recreation needs. Siting of these facilities needs to consider shoreline access, land use, ownership, safety for other activities (i.e. motorized boating), wildlife habitat
- Build primary and support infrastructure – new facilities will need to be constructed. Support infrastructure for both upgraded and new facilities, especially utilities, will need to be identified and constructed.
- Improve transportation network – access roadways and provision of adequate ingress/egress, and parking is required to support increased use levels.
- Implement control, monitoring, and safety systems – multiple uses of the Sea will entail the need to provide appropriate signage, oversight, training, and safety services to ensure public safety and make the recreation experience safe and enjoyable. Lifeguard services may be required.
- The low-tech nature of these types of facilities means that swimming areas could be developed quickly and at any time.

Implementation Strategies and Factors – Swimming/Sunbathing

The strategies and factors required to implement swimming and sunbathing recreation opportunities are summarized in Table 2.5-15, and include the following:

- Ownership/Responsibility – Ownership and construction of new facilities could be public, private, or tribal, but public lands such as the wildlife refuge will not likely be developed for this use. This activity requires water access.
- Management Approach – These facilities would likely have private management for the private facilities, and would be publicly-managed in state, or municipal recreation areas. Onsite management and provision of safety/medical services is not required for any of these facilities, but could be provided (lifeguards) to ensure public safety and make the recreation experience safe and enjoyable.
- Financing - Private facilities would be privately financed, public facilities would be publicly financed. Either public or private facilities would likely have only small to moderate initial capital requirements. Beach facilities could have user fees as a funding stream to support O&M costs.
- Environmental Considerations – Only minimal construction would be required for this activity. Shoreline modifications such as placement of beach sand, lawns or similar may be required. This activity could be supported in facilities developed for boating access or resort development, but would need to be protected from motorized boats. Construction could involve the placement of jettys and floating docks. It would include the construction or improvement of access roadways to reach the facility. Improvement or installation of utilities (water, sewer/septic, waste handling) will be required in most cases, for restrooms.
- Physical Factors – The construction may involve fixed or floating pier structures and docks. Safety requires the physical separation of major use activities (i.e., power boats, jet skis, wildlife, etc.), requiring marked charts, signage, booms, etc., to ensure public safety and make the recreation experience safe and enjoyable. Infrastructure requirements would not take up significant areas of land, but require water access.

- Social/Economic Factors – A basic beach facility with small piers and a boom may have a cost range of $100,000 to $500,000, not including land acquisition. This proposed activity received a moderate submitted score in a preference survey of Salton Sea users and stakeholders (ranked 11th of 20 activities). Development of facilities in the East [Zone 2] and West [Zone 4] are equally preferred.

Table 2.5-15. Summary of Conceptual Plans/Implementation – Swimming/Sunbathing.

Activity	• Water Contact - Swimming/Sunbathing
Type of Facilities Projected	• Improved/restored beaches and swimming areas
Location (Zone[s])	• East [Zone 2] and West [Zone 4]
Number of Facilities	• 6 existing/improved beaches; 14 new beaches
Support Facilities Required (at each)	• Parking area; ingress/egress areas; utilities; restrooms; safety facilities and equipment; access to the shoreline is required for this activity
Key Steps to Implementation	• Upgrade existing facilities • Identify locations for new facilities • Build primary and support infrastructure • Improve transportation network • Implement control, monitoring, and safety systems • Low-tech nature of facilities means launch areas could be developed quickly and at any time
Implementation Factors	• **Entity Responsible/Ownership** – Public, private or tribal; requires water access • **Management Approach** – private management for private facilities; publicly-managed facilities in state or municipal recreation areas; lifeguard and safety services optional • **Financing** – private facilities would be privately financed; public facilities would be publicly financed; both public and private types would have only low to moderate initial capital requirements; both types would likely have parking or user fees as a funding stream for O&M costs • **Environmental Considerations** – minimal facility construction; shoreline and nearshore modification such as beach sand or lawns; placement of piers and jettys, booms; construction and improvement of access roadways; improvement or installation of utilities; parking, ingress/egress • **Physical Factors** – floating docks on piers give more future flexibility compared to fixed structures, if Sea levels continue to fall in the future; safety requires physical separation of major use activities requiring marked charts, signage, etc.; infrastructure requirements will be minimal • **Social/Economic factors** – basic beach with small piers, construction cost range $100,000 to $500,000. This proposed activity received a moderate submitted score in a preference survey of Salton Sea users and stakeholders (ranked 11th of 24 activities).

Windsurfing

Windsurfing use requires very little infrastructure because they are easily hand-carried and launched from a variety of locations. Parking areas are the main need. Put-ins for windsurfers can be co-located with kayak launches and beaches. Windsurfers do have the potential to be disruptive and dangerous for other recreational uses, such as swimming, and should be separated via a boom or similar recreation divider.

There is minimal to no windsurfing use currently at the Sea due to the poor water quality. Existing launch facilities and support infrastructure are also in disrepair.

Windsurfing is currently popular at many similar lake facilities in the region, particularly Lake Mohave. Windsurfing is also popular in the Pacific Ocean. Moderate to strong winds are required for windsurfing. The Sea has approximately 243,000 acres of surface area, so there is plenty of open water area for users once out on the lake. The estimated maximum capacity of the existing facilities is 100,000 launches per year (Appendix C), although it is not known if there is more than minimal use by windsurfers at the present time.

Impacts of Restoration – Windsurfing

Restoration of the Salton Sea would dramatically improve conditions for windsurfing by improving water quality. The likely increased demand would lead to the need for restoring existing launch facilities and beaches, and expanding existing or building additional facilities to meet anticipated demand. Windsurfers could be launched and rented from the same new facilities developed for swimming or hand-launched boats (kayaks, etc.). Development of up to 10 restored/new facilities would provide reasonable capacity to support an annual projected capacity of 1.5 to 2.5 million windsurfers (Appendix C).

Activity/Facility Recommendations – Windsurfing

Recreation opportunities at the Salton Sea for windsurfing can be implemented through improving existing launch facilities and beaches, and through building new launch facilities and beaches. These types of facilities can vary in size, depending on use levels, land availability, access, and economic viability. Because windsurf boards are easily launched by hand, small access locations can be developed, as appropriate.

The results of the recreation opportunities survey conducted for this evaluation, combined with information regarding historic and existing facilities for this type of activity, indicate that the following zones are most appropriate for these types launch of beach facilities: the East [Zone 2] and West [Zone 4].

Infrastructure Requirements – Windsurfing

Infrastructure requirements for this activity/facility include the following: parking areas; utilities (water, sewer/septic, waste disposal). Physical requirements for the launch facilities include parking areas and footpaths to the shoreline. These recreation opportunities require access to the shoreline of the Sea.

Key Steps Required for Implementation – Windsurfing

The key steps required to implement windsurfing recreation opportunities are summarized in Table 2.5-16, and include the following:

- Upgrade existing facilities – existing boat launches and beaches have not been maintained at a level that will support increased use. These facilities will need to be rehabilitated and cleaned up.
- Identify locations for new facilities – additional beach and hand-launch locations are expected to be required to meet projected recreation needs. Siting of these facilities needs to consider shoreline access, land use, ownership, safety for other activities (i.e. motorized boating, swimming, etc.), wildlife habitat

- Build primary and support infrastructure – new facilities will need to be constructed. Support infrastructure for both upgraded and new facilities, especially utilities, will need to be identified and constructed.
- Improve transportation network – access roadways and provision of parking is required to support increased use levels.
- Implement control, monitoring, and safety systems – multiple uses of the Sea will entail the need to provide appropriate signage, oversight, training, and safety services to ensure public safety and make the recreation experience safe and enjoyable. Separation of windsurf launching from swimmers may be required.
- The low-tech nature of these types of facilities means that launch areas could be developed quickly and at any time; however, increased interest in this activity will most likely occur after restoration is in place and Sea condition demonstrably improved.

Implementation Strategies and Factors – Windsurfing

The strategies and factors required to implement windsurfing recreation opportunities are summarized in Table 2.5-16, and include the following:

- Ownership/Responsibility – Ownership and construction of new facilities could be public, private, or tribal, but public lands such as the wildlife refuge will not likely be developed for this use.
- Management Approach – These facilities would likely have private management for the private facilities, and would be publicly-managed in state, or municipal recreation areas. Onsite management and provision of safety/medical services is not required for any of these facilities, but could be provided if co-located with swimming or other boat launching uses.
- Financing - Private facilities would be privately financed, public facilities would be publicly financed. Either public or private facilities would likely have only small initial capital requirements. Parking fees could be used as a funding stream to support O&M costs.
- Environmental Considerations – Only minimal construction would be required for this activity. Shoreline modifications such as placement of beach sand may be required. This activity could be supported in facilities developed for boating access, resort development, or swimming, but would need some level of separation from other activities. Construction would primarily only involve parking area and perhaps restrooms. It would include the construction or improvement of access roadways to reach the facility. Improvement or installation of utilities (water, sewer/septic, waste handling) is not required, but may be desired in most cases.
- Physical Factors – Safety requires the physical separation of major use activities (power boats, jet skis, wildlife, etc.), requiring signage, booms, etc., to ensure public safety and make the recreation experience safe and enjoyable. Infrastructure requirements would be minimal, but require water access.
- Social/Economic Factors – A basic beach facility with a parking area may be about $100,000, not including land acquisition. This proposed activity received a relatively low submitted score in a preference survey of Salton Sea users and stakeholders (ranked 14th of 20 activities). Development of facilities in the East [Zone 2] and West [Zone 4] are equally preferred.

Table 2.5-16. Summary of Conceptual Plans/Implementation – Windsurfing.

Activity	• Water Contact – Windsurfing
Type of Facilities Projected	• Improved/restored beaches and hand-launch areas
Location (Zone[s])	• East [Zone 2] and West [Zone 4]
Number of Facilities	• 6 existing/restored beaches; 4 new beaches or hand-launch areas
Support Facilities Required (at each location)	• Parking area; restrooms
Key Steps to Implementation	• Upgrade existing facilities • Identify locations for new facilities • Build primary and support infrastructure • Improve transportation network • Implement control, monitoring, and safety systems • Low-tech nature of facilities means launch areas could be developed quickly and at any time; however, will most likely occur after restoration is in place and Sea condition demonstrably improved
Implementation Factors	• **Entity Responsible/Ownership** – Public, private or tribal • **Management Approach** – private management for private facilities; publicly-managed facilities in state or municipal recreation areas; lifeguard and safety services optional • **Financing** – private facilities would be privately financed; public facilities would be publicly financed; both public and private types would have only low initial capital requirements; both types would likely have parking or user fees as a funding stream for O&M costs • **Environmental Considerations** – minimal facility construction; shoreline and nearshore modification such as beach sand; placement of booms; construction and improvement of access roadways; improvement or installation of utilities; parking • **Physical Factors** – safety requires physical separation of major use activities (motorized boats, wildlife, etc.) requiring marked charts, signage, etc.; infrastructure requirements will be minimal • **Social/Economic factors** – basic beach of hand-launch, cost approximately $100,000. This proposed activity received a relatively low submitted score in a preference survey of Salton Sea users and stakeholders (ranked 14th of 20 activities).

2.5.9 General Photography

Photography is practiced by both casual visitors to the Salton Sea area, families traveling to or through the area, and photo enthusiasts who seek out specific regions, locations, and types of subjects for their photographs. Types of photos sought in the Sea area include desert, mountain, and water vistas, more localized geologic and habitat features, and "up-close" photos of specific locations and events.

Impacts of Restoration – General Photography

For the most part, the interest in taking photographs is not affected by the current conditions of water quality and habitat degradation in the Sea. Most of the objects of interest to photographers are independent of those conditions. Similar interests drive the popularity of photography at other water recreation venues in Southern California, varying only in the localized conditions at each site. The need for facilities that allow photography is driven by the

assumption that an increase in the number of visitors to the Sea will result as a restoration program for the Sea moves forward. Maintaining the quality of viewsheds post-restoration efforts would ensure sufficient photographic opportunities. .

Activity/Facility Recommendations – General Photography

Recreation opportunities at the Salton Sea for general photography can be implemented through improvements to general transportation facilities. Photographers are often drawn to areas or points of interest on short notice. Many take photos on the "spur-of-the-moment" as they travel through an area. The improvements discussed are important in allowing them to safely and easily pull off the highway to park and take photos. The improvements protect the user and also allow other traffic to proceed safely and unhindered. Improvements and new facilities will also allow photographers access to areas that are currently or previously hard to access.

Opportunities are available for general photography all around the Sea and on surrounding lands. Depending on use of specific areas (i.e., wetlands, nesting areas, etc.), facilities could be constructed to meet user demands while protecting environmentally sensitive areas. The survey did not allow respondents to rate and rank the location of facilities for this activity, as it was presumed all areas are appropriate to support this activity.

Infrastructure Requirements – General Photography

Infrastructure requirements for this activity/facility include the following: roadway improvements, parking, overlooks, and interpretive signage discussing the points of interest around the Sea.

Key Steps Required for Implementation - General Photography

The key steps required to implement general photography recreation opportunities are summarized in Table 2.5 17, and include the following:

- Identify locations for access points, parking – additional parking and turnout locations are expected to be required to meet projected recreation needs. Siting of these facilities needs to consider shoreline access, land use and ownership, relationship to points of interest, traffic safety, and proximity to incompatible uses.
- Build support infrastructure – new facilities will need to be constructed. Support infrastructure is very simple and easy to implement.
- Implement signage needs – signage for viewpoint information, directions, and general interpretive information will need to be developed and placed appropriately.
- The low-tech nature of any additions to support facilities means access points could be developed quickly and at any time. These facilities are only slightly dependent on Sea restoration, although restoration and habitat improvements will enhance photography opportunities and inspiration levels.

Implementation Strategies and Factors - General Photography

The strategies and factors required to implement general photography recreation opportunities are summarized in Table 2.5-17, and include the following:

- Ownership/Responsibility – Implementation could occur on public, private or tribal lands, with ownership associated with land ownership type. Access negotiations may be required in privately-owned or tribal areas for access to viewpoints and areas of interest to enthusiasts.

- Management Approach – These facilities would likely have private management for the private facilities, and would be publicly-managed in federal, state, or municipal recreation areas, unless the management responsibility is contracted to a private firm.
- Financing - Private facilities would be privately financed. For public facilities, transportation funds are frequently available for these types of enhancements.
- Environmental Considerations - will only require minimal development of access points, etc. Activity would be enhanced by habitat restoration/creation actions.
- Physical Factors – This activity is sensitive to the effects of unsuitable adjacent land uses, and may need to be physically buffered and separate from hunting areas, which are suitable in similar habitat types, and OHV use. The sites may also need to be physically separate from motorized boating and personal watercraft uses. However, the enthusiast may seek photography of these activities.
- Social/Economic Factors – Basic facilities cost in the range of <$100,000. This proposed activity received some of the highest submitted scores in a preference survey of Salton Sea users and stakeholders (ranked 3rd of 20 activities). These types of activities are so diffuse and widespread that no preference for locations of facilities was sought in the survey.

Table 2.5-17. Summary of Conceptual Plans/Implementation – General Photography.

Activity	• Photography – General
Type of Facilities Projected	• No specific facilities required – access to viewpoints, points of interest
Location (Zone[s])	• All (not part of the preferences survey)
Number of Facilities	• Not applicable; opportunities are available around the Sea and in surrounding areas
Support Facilities Required	• Roadway improvements, parking, overlooks; interpretive signage
Key Steps to Implementation	• Identify locations for access points, parking • Build support infrastructure • Implement signage needs • Low-tech nature of any additions to support facilities means access points could be developed quickly and at any time; only slightly dependent on Sea restoration, although restoration/habitat improvement will enhance opportunities and inspiration
Implementation Factors	• **Entity Responsible/Ownership** – could occur on public, private or tribal lands, with ownership associated with land ownership type; access negotiation may be required in privately owned or tribal areas • **Management Approach** – no facilities to manage; interest is in access to viewpoints, viewsheds, and points of interest that inspire taking of photographs; access generally achieved through minor modifications to existing transportation network or in conjunction with existing infrastructure • **Financing** – transportation funds are frequently available for these types of enhancements • **Environmental Factors** – will only require minimal development of access points, etc. Activity would be enhanced by habitat restoration/creation actions. • **Physical Factors** – sensitive to the effects of unsuitable adjacent land uses; need to be physically buffered and separate from hunting areas and OHV use. Also generally need to be physically separate from motorized boating and personal watercraft uses. • **Social/Economic factors** – basic facilities cost range <$100,000. This proposed

	activity received some of the highest submitted scores in a preference survey of Salton Sea users and stakeholders (ranked 3rd of 20 activities). These types of activities are so diffuse and widespread that no preference for locations of facilities was sought in the survey.

2.5.10 Cultural Tourism

The category of cultural tourism encompasses a variety of activities and facilities, including roadside markers and signage depicting historic places and events, rest stops and overlooks with local and regional information on geographic and habitat features, local information kiosks and gift shops associated with specific venues, and regional museums and displays of historic events, artifacts, and culture. Cultural tourism activities are popular in all similar water recreation venues in Southern California. The differences between the areas are related to differences in local and regional geography, history, and uses.

Impacts of Restoration – Cultural Tourism

Conditions in the Sea have reduced all uses. Users of cultural tourism facilities generally use these facilities as an adjunct to other activities, and are not in the area specifically for the cultural tourism attractions. Improvements in the condition of the Sea that increase visitor use may result in increased use of cultural tourism facilities. Small, localized features can be implemented at relatively low cost. More complex facilities, up to museums, would be viable only after restoration has been implemented and visitor use at the Sea has increased. Construction of 6 to 12 major and 12 to 24 minor facilities will support the reasonable capacity for facilities with an annual projected capacity of approximately 50,000 visitors (Appendix C).

Activity/Facility Recommendations – Cultural Tourism

Some recreation opportunities at the Salton Sea for cultural tourism can be implemented through simple improvements to general transportation facilities. Similar to the discussion for general photography, cultural tourism enthusiasts are often drawn to areas or points of interest on short notice. Many visit exhibits or museums on the "spur-of-the-moment" as they travel through an area, and the improvements discussed are important in allowing them to safely and easily enter and exit points of interest. The improvements protect the user and also allow other traffic to proceed safely and unhindered. Improvements and new facilities will also allow cultural tourism users access to areas that are currently or previously hard to access.

More complex museum and exhibits will take longer to develop, and will require more extensive planning, funding, and implementation. This category was written-in by survey respondents, but is widely supported. Facilities to support this activity should be co-located with points of interest and restoration efforts to maximize use by Sea visitors.

Infrastructure Requirements – Cultural Tourism

Infrastructure requirements for this activity/facility include the following: simple facilities require only signage and minor roadway improvements and/or parking; more complex displays and facilities could require roadway improvements, parking, utilities, waste collection and removal, restrooms, and concessions.

Key Steps Required for Implementation - Cultural Tourism

The key steps required to implement cultural tourism recreation opportunities are summarized in Table 2.5-18, and include the following:

- Upgrade existing facilities – minor existing interpretive facilities and exhibits would be upgraded to support increased use or a modified Sea elevation. These facilities will need to be rehabilitated or rebuilt.
- Identify locations for new facilities – additional interpretive/museum locations are expected to be required to meet projected recreation needs. Siting of these facilities needs to consider access, land use and ownership, and proximity to points or areas of interest.
- Build primary and support infrastructure – new facilities will need to be constructed. Support infrastructure for both upgraded and new facilities, especially utilities, will need to be identified and constructed.
- Implement signage needs – signage for viewpoint information, directions, and general interpretive information will need to be developed and placed appropriately.
- Development and implementation could occur at any time. These facilities are only slightly dependent on Sea restoration, although this activity would likely be enhanced by habitat restoration/creation actions contemplated for the Sea. For more complex facilities and museums, substantial capital cost, planning, and construction requirements mean that facilities will have long lead times; these types of facilities will most likely occur after restoration is in place and the Sea condition is demonstrably improved.

Implementation Strategies and Factors - Cultural Tourism

The strategies and factors required to implement cultural tourism recreation opportunities are summarized in Table 2.5-18, and include the following:

- Ownership/Responsibility – Ownership will likely be private or tribal, except in federal, state, or municipal recreation areas. Tribal development would most likely be a private/tribal partnership.
- Management Approach – Likely private management for private facilities, and publicly-managed facilities in federal, state, or municipal recreation areas, unless management is contracted. Primary management concern will be the protection of resources/features of interest to avoid degradation or loss.
- Financing – Funding sources will likely be mostly private or tribal. Some simple displays are eligible through transportation funding. Cooperative public/private partnerships are possible. Complex displays and museums would most likely be implemented through private funding - ongoing operations can be partially supported through use/visitor fees and concessions.
- Environmental Considerations - Interest in displays and museums is often expressed in close proximity to items of interest, and care must be exercised to appreciate the feature without disruption. Development will need to ensure protection of cultural resources and other resources while allowing viewing. Also, use should occur where there will not be significant adverse effects on high quality habitats. Implementation could range from minor trails to sites with fencing to fully developed museums.
- Physical Factors – Area would need to develop access roadways, trails, and exhibits, and provide for public safety and vandalism protection.
- Social/Economic Factors – Simple facilities could be prepared for construction costs of <$100,000, while museums and complex exhibits can cost from $100,000 up to $500,000 for more developed facilities and ancillary activities, and >$10 million for a museum, not including land acquisition. This proposed activity

received was widely supported by survey respondents from the ORATF members. As it was not included in the original survey categories, this activity was not ranked, but is included in this discussion due to wide support for the activity by the ORATF and the Authority. Development of facilities by Zone was not specified, as this type of activity is frequently tied to specific physical or historic features, land uses, or habitats.

Table 2.5-18. Summary of Conceptual Plans/Implementation – Cultural Tourism.

Activity	• Cultural Tourism – Museums, Interpretive Centers
Type of Facilities Projected	• Range from simple signage and displays to complex interactive displays and sites, museums, etc.
Location (Zone[s])	• All zones; interest and presentation is frequently tied to specific physical or historic features, land uses, or habitats
Number of Facilities	• 12-24 minor and as many as 6-12 major facilities
Support Facilities Required	• Simple facilities require only signage and minor roadway improvements and/or parking; more complex displays and facilities could require roadway improvements, parking, utilities, waste collection and removal, restrooms, concessions
Key Steps to Implementation	• Upgrade existing facilities • Identify locations for facilities • Build support infrastructure • Implement signage needs • Could occur at any time; only slightly dependent on Sea restoration, although activity would likely be enhanced by habitat restoration/creation actions. For more complex facilities and museums, substantial capital cost, planning, and construction requirements mean that facilities will have long lead times; will most likely occur after restoration is in place and Sea condition demonstrably improved
Implementation Factors	• **Entity Responsible/Ownership** – likely private or tribal, except in federal, state, or municipal recreation areas; tribal development most likely would be a private/tribal partnership • **Management Approach** – private management for private facilities; publicly-managed facilities in federal, state, or municipal recreation areas, unless management is contracted; primary management concern is protection of resources/features • **Financing** – mostly private or tribal; some simple displays are eligible through transportation funding; cooperative public/private partnerships are possible; complex displays and museums most likely implemented through private funding; ongoing operations can be partially supported through use/visitor fees and concessions • **Environmental Factors** – interest in displays and museums is often expressed in close proximity to items of interest, and care must be exercised to appreciate the feature without disruption; need to ensure protection of cultural resources, while allowing viewing, etc. Also, should occur where there will not be significant adverse effects on high quality habitats. Could range from minor trails to sites with fencing or fully developed museum. • **Physical Factors** – would need to develop access roadways, trails, exhibits, provide public safety and vandalism protection • **Social/Economic factors** – simple facilities could be prepared for <$100,000, while museums and complex exhibits can cost from $100,000 up to $500,000 for more developed facilities and ancillary activities, and >$10 million for a museum. This proposed activity was supported by the ORATF members. Development of facilities by Zone was not specified, as this type of activity is frequently tied to

	specific physical or historic features, land uses, or habitats.

This page left intentionally blank.

Chapter 3
ECONOMIC DEVELOPMENT OPPORTUNITIES

3.1 INTRODUCTION

This discussion of socio-economic conditions and opportunities surrounding the Salton Sea area includes regional employment, income, recreational related expenditures, finance, demographics, and housing. The geographic area of study generally includes Imperial and Riverside counties in California. This area was selected because the Sea is within the boundaries of both counties, and most economic effects from the use of and management of the Sea are within the two-county region. Businesses within Imperial and Riverside counties provide most of the goods and services required by activities and industries that depend on the Sea. Likewise, most employees of these businesses reside in the region, with few people commuting from other counties.

The Sea has two important functions for the economies of the study area. First, it is a recreational resource, attracting visitors primarily from southern California and secondarily from other areas of the United States. Thus, the Sea generates tourist-based income and employment for the surrounding communities. Second, it represents an essential infrastructure for the local economy by serving as a repository for stormwater and agricultural runoff from the Imperial and Coachella valleys. Historically, this agricultural repository function was the primary purpose of the Sea (DRA 1969). The Sea also provides a number of other functions that influence the local economies, including providing subsistence fishing for local Native Americans and serving as an aesthetic asset to the region.

There are differences in the relative importance of the Sea to the economies of the two counties. Coachella Valley of eastern Riverside County drains to the Sea, but the more populous areas of Riverside County, west of the San Jacinto Mountains, are more closely tied to the industrial economies of coastal communities, primarily the Los Angeles metropolitan area. Most economic activities in Imperial County, including agricultural production, occur in the Imperial Valley, making the Sea an important component of the local economy. With this in mind, the intent of this section is to identify the potential to create and/or stimulate local economic growth and to discuss the opportunities for economic development in areas surrounding the Sea.

3.2 ECONOMIC DEVELOPMENT

Economic development is a process of influencing private sector investments to foster growth that will lead to certain positive outcomes. The economic development strategies and activities depend on what a community desires as the result of their efforts. For instance, an agency may be concerned with increasing their tax base or the area's employment opportunities. To this end the agency may pursue an economic development approach that focuses on attracting new businesses to the area. The agency must leverage its assets, such as land availability or an educated workforce then implement programs that tout the assets and draw in new businesses to

ultimate achieve their goals. Figure 3-1, presented below, summarizes the inputs and outputs associated with economic development.

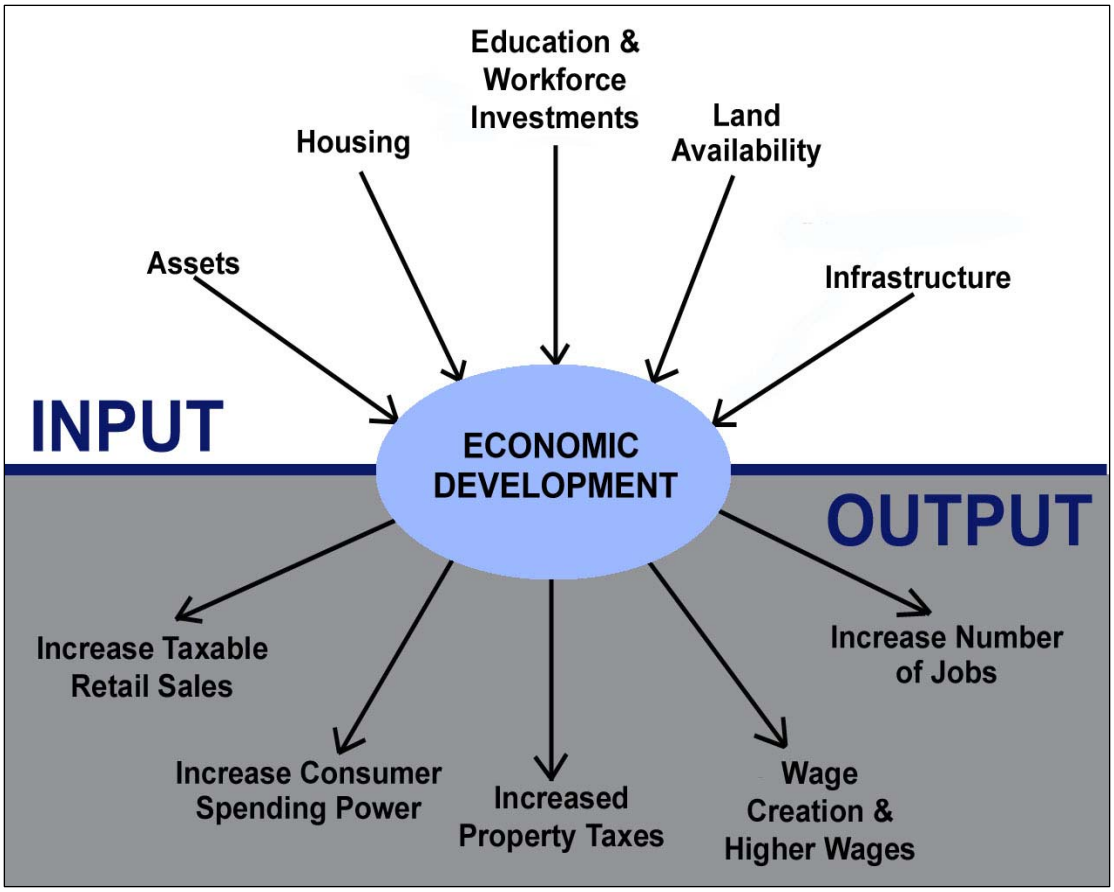


Figure 3-1. Strategies for Economic Development.

Study Area

The project and related actions may affect social and economic conditions of areas near the Sea. These areas may be classified into: 1) the local area with the most direct economic effects from restoring the Sea, and 2) the regional area that has an economic relationship with the Sea. For purposes of this analysis, the first is considered to be contained within an approximate ten (10) mile radius of the shore also encompassing the communities of Mecca, Calipatria, Niland, and Salton City. This region is generally contained within the Infrastructure Finance District [IFD] boundaries defined by the Salton Sea Authority and has been designated as the Primary Area (Figure 3-2). The latter is considered as consisting of both Riverside and Imperial Counties and has been designated as the Overall Area.

There is also the multi-county, southern California region, within which the Sea's economic area is located and from which many of the construction workforce would originate. At this scale, however, project impacts would be very diffuse and hence are not addressed in this study.

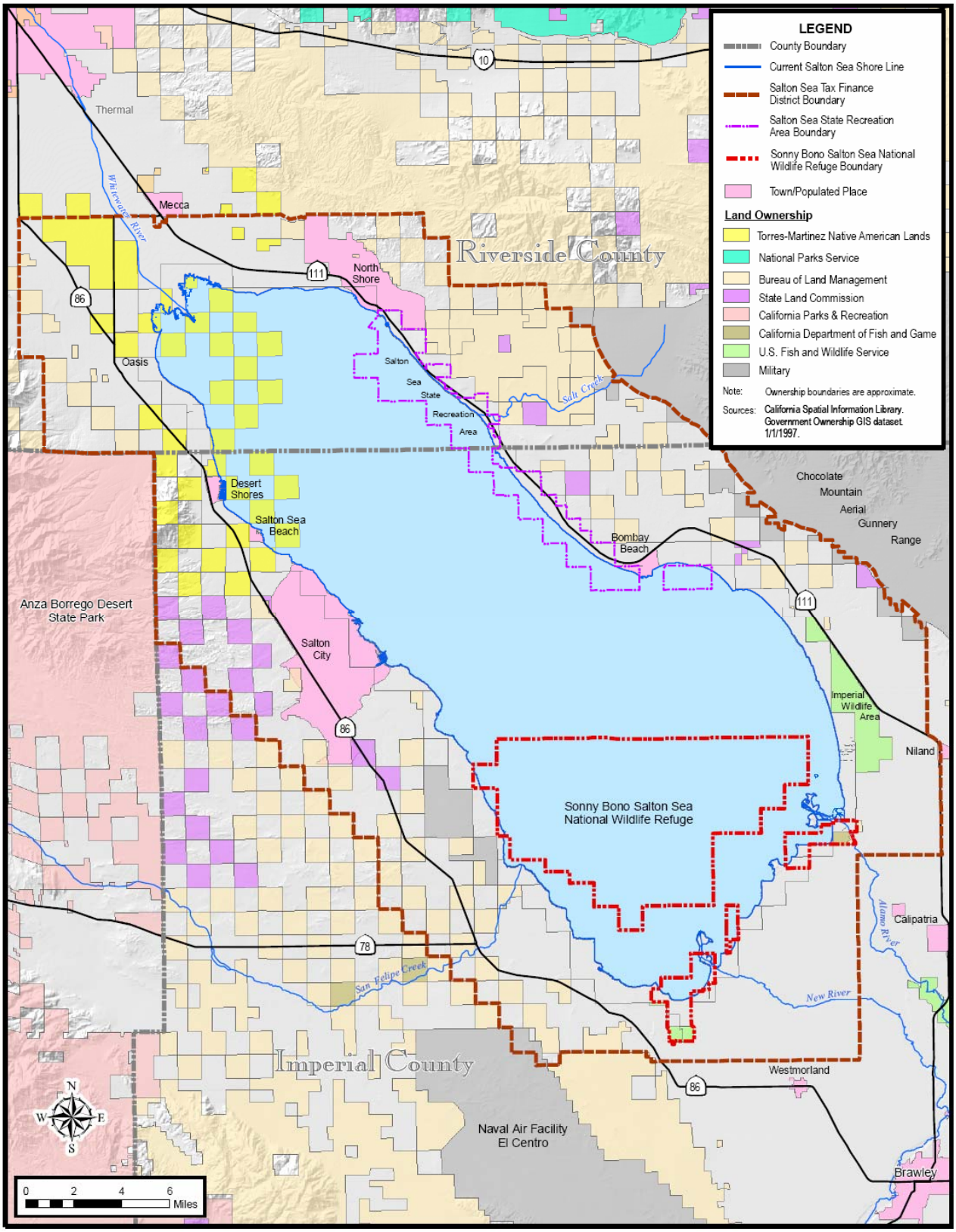


Figure 3-2. Study Area.

Proposed Project

The Proposed Project assumes restoration of the entire Sea. Under this program the Sea could be maintained at or slightly below its current size and elevation. It is estimated that the total construction costs could range from approximately $300 million to $1.0 billion over five years. It is also envisioned that that construction would result in an annual increase in construction-related employees, many of whom would be workers from outside the area. The estimated increase in jobs at Salton Sea is presented in Figure 3-3.

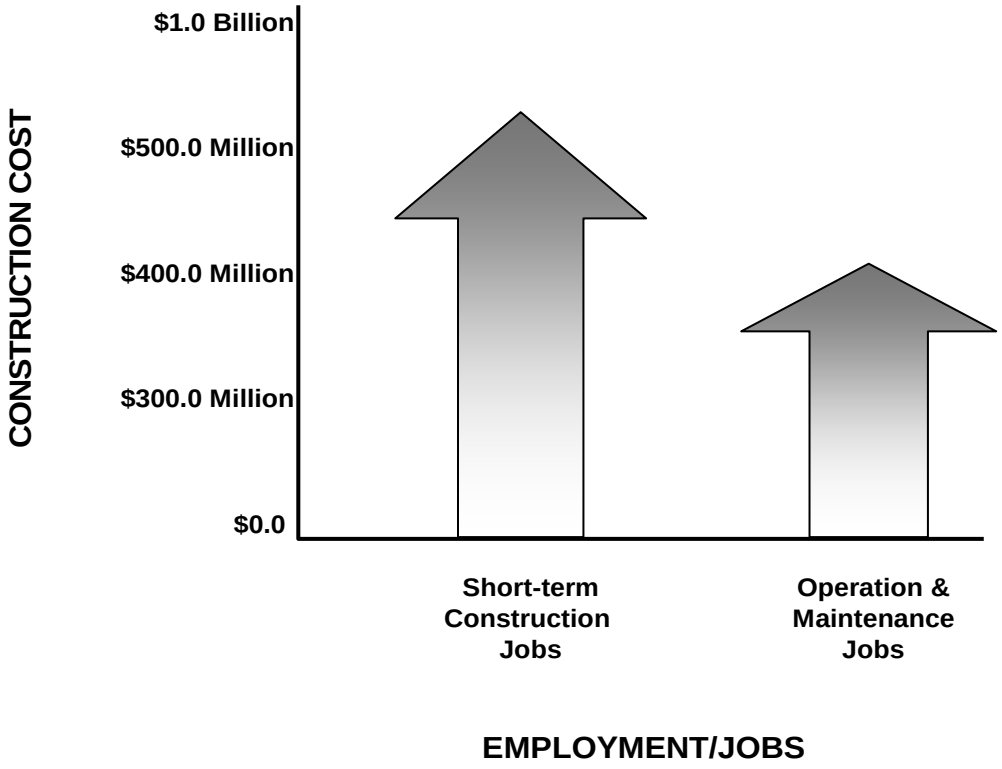


Figure 3-3. Increase in Jobs Resulting From Construction Spending.

The effects also include increased spending for wages of workers from the regional and local area as well as increased profits to local material suppliers and service providers, increased number of jobs, increased property taxes and increased taxable sales (Figure 3-4).

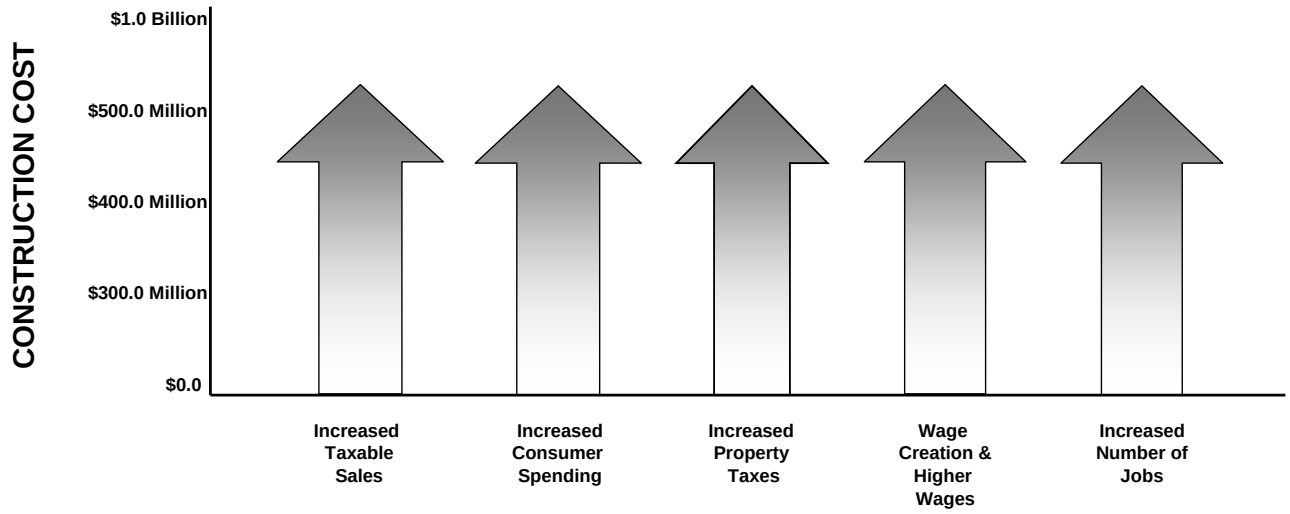


Figure 3-4. Economic Benefit of Restoration Efforts Based Upon Construction Spending.

3.3 LOCAL ECONOMIC BASE ANALYSIS

Socio-Economic Conditions

Data for this section was obtained from the Bureau of Economic Analysis [BEA], the California Department of Finance, the California Board of Equalization, and Claritas, Inc., an independent marketing information resource company, and from other regional economic studies. Two specific studies are incorporated by reference. First, the Salton Sea Management Project Economic Profile Study (Onaka et al. 1995) provides a detailed account of the economic characteristics of the region between 1980 and 1995. The second, Economic Benefits Derived from Water and Lands Surrounding the Salton Sea (DRA 1969) provides a historical record of economic conditions prior to the degradation of the Sea.

Due to time lags in data collection and processing, most data series are for 2003 which is the most recent year available. While there has been a recent spark of economic revitalization in the area, current conditions are expected to be similar in scale and magnitude because no major events have occurred in the area to date to substantially affect economic trends. Most sources aggregate data on a county level; therefore, data are provided for Imperial and Riverside counties and more specifically for the area of primary influence, where relevant and where data is available.

3.4 REGIONAL ECONOMICS

Employment Trends

In Riverside County the services sector is the predominant source of business. The personal services sector accounts for the highest concentration of businesses while the manufacturing sector has the highest concentration of employees. While both Imperial and Riverside counties have diversified economies, the proportion of persons employed in farming in Imperial County (approximately 21 percent) is higher than in Riverside County (approximately two percent). In 2003, Riverside County had an average unemployment rate of 6.3 percent, while the more rural

Imperial County had an unemployment rate of 15.9 percent. The primary employment sectors in the Overall area include the service sector, retail trades, and government employment. In Imperial County the services sector is the predominant source of business and employment. The personal services sector has the highest representation of businesses while the health services sector has the highest representation of employees. Unemployment in the region of the Overall area is variable, due to seasonal jobs. Historically, unemployment in the area has varied between eight and fourteen percent.

Based on employment data obtained from Claritas, Inc., there are 390 businesses and 7,900 employees in the Primary Area. The wholesale trade sector employs over 30% of the population in this area. The services sector represents over 31% of all of the businesses.

Income Generation

The 2003 per capita income level for the Overall area was $25,032 in Riverside County, which is average for the state, while Imperial County was at $20,674, one of the lowest in the state. Average wages per job in Riverside County averaged $31,833 in 2003, and they were $27,455 in Imperial County.

The per capita income level for the Primary Area is significantly less than that found in Imperial and Riverside counties. The difference in per capita income is greater than $5,000. This also applies to the average household income. Households in the Primary Area typically generate $38,219 of income per year while households in Imperial County generate $50,009 and Riverside County generates $63,592 per year.

Recreational-related Expenditures

The travel industry is a major component of California's economy and a primary industry for many local communities. According to a study commissioned by the California Travel and Tourism Commission, in 2004, $82.5 billion in total direct travel spending was generated within the State, includes total visitor spending at the destination, and resident spending on air transportation and fees for travel arrangement services. Additionally, in 2004, every $100 of travel spending generated $32.13 of earnings, $2.33 of local tax revenue, and $3.97 of state tax revenue.

In 2003 the total direct travel spending in the Overall Area was $4.9 billion Riverside County and $250.4 million in Imperial County. The local tax receipts generated by travel spending were $100 million in Riverside County and $4.3 million in Imperial County. Tax receipts collected by counties and municipalities, as levied on applicable travel-related purchases, includes local sales taxes and transient occupancy taxes. California Fast Facts of 2005, estimates that during the 2003/2004 fiscal year the Salton Sea State Recreational Area received approximately 227,533 visitors. According to staff at the Sony Bono National Wildlife Refuge an estimated 45,000 vehicles a year enter the park. In a report prepared by D. K. Shifflet & Associates it is estimated that in 2003 the average expenditures per person per day within Riverside County was $92.50, excluding transportation costs.

Finance

Taxable retail sales in the overall area have historically experienced annual increases of 4.5 percent in Imperial County and 11.5 percent in Riverside for the past 5 years. The sales tax rate in both Imperial and Riverside counties is 7.75 percent.

Though most cities within the overall area have experienced growth in taxable retail sales, they are generally at a lesser degree than the overall area. Historically, there has been a low average

retail sales per capita in the Primary Area. This suggests that residents purchase many products outside the local area, resulting in a "leakage" of retail sales to other areas within the overall area.

The assessed value of the property subject to property taxes within the Study Area totaled $327 million during the fiscal year 2002/2003. The current assessed value for fiscal year 2004/2005 totals more than $1.6 billion. This represents an increase of 400 percent from fiscal year 2002/2003. The drastic increase in assessed valuation is the result of geothermal plants located in Tax Rate Area 58-000. The assessed valuations of the plants are primarily based on the value of the property after construction has been completed. Once the plants are in operation the assessed valuation is based on the amount of energy it produces, which greatly varies on a yearly basis. Historically these plants have been known to operate for a few years at a time before more efficient plants are established. This shift in operation causes the assessed valuation to shift dramatically depending on the number of plants in operation. The assessed value of property in Imperial and Riverside Counties has increased by 28 percent and 10 percent since fiscal year 2002/2003, respectively.

In Imperial County, one percent of property taxes go to city governments, 40 percent to the county, 52 percent to school districts, and 7 percent to other districts. In Riverside County, 26 percent of property taxes go to city government, 16 percent to the county, 50 percent to school districts, and 8 percent to other districts.

Demographics and Housing

The population of the 7.3 million-acre Overall area totaled 1,997,374 in 2005, representing a 18.34 percent increase since 2000. Approximately 91 percent of the Overall Area population reside in Riverside County, mostly in urban areas west of the San Jacinto Mountains (US Census Bureau 2004). About 45,000 people, or three percent of the Overall Area population, reside in the Primary Area. The majority live along the northern shore of the Salton Sea in Riverside County.

The population and racial characteristics of the study area are shown in Table 3-1 and Table 3-3, respectively.

The population within the Primary Area has grown from 36,134 in 2000 to 41,872, in 2005 representing an increase of 15.88%. By the year 2010 the population is expected to total 47,626, a 13.96% increase.

Table 3-1. Population Density (person's per square mile).

Site	Square Miles*	Current Population	Density
Study Area	79	41,872	533
Imperial County	4,597	153,881	34
Riverside County	7,200	1,843,493	256

Source: Claritas, Inc. and Riverside and Imperial Counties.
*Figures are rounded

Compared to the average household size in Imperial and Riverside counties the average household size in the study area is more than 20 percent larger (Table 3-2). The largest households are located within 5 miles of the shore of the Salton Sea. The number of households

has changed from 8,457 to 9,669 since 2000, representing a 14.3 percent increase. Over the next five years it is expected to increase by another 12.9 percent.

Table 3-2. Average Household Size.

Site	Household Size
3 Mile Radius	3.71
5 Mile Radius	3.85
Study Area	3.80
Imperial County	3.36
Riverside County	3.03

Source: Claritas, Inc.

The racial composition of the Primary Area is predominantly Hispanic, representing 80% of the population, which is incorporated into the table below as "other". Racial characteristics appear to have changed little since 1990 (Table 3-3).

Table 3-3. Racial Composition.

Site	White	Black	Asian/ Islander	Native American	Other	2 or More
3 Mile Radius	28.21%	.19%	.18%	.95%	67.07%	3.41%
5 Mile Radius	34.67%	1.40%	2.28%	1.35%	57.86%	3.70%
Study Area	36.00%	5.07%	.89%	1.27%	53.59%	3.18%
Imperial County	48.35%	3.71%	1.84%	1.62%	40.92%	3.55%
Riverside County	62.92%	6.19%	4.32%	1.14%	20.69%	4.73%

Source: Claritas, Inc.

The age distribution within the Primary Area is similar to that of the Overall Area. The median age for the Primary Area and the Overall Area ranges between the age of 18 and 34. The median age is 28.8.

Over 60 percent of the residents in the Primary Area do not have a high school diploma. This is significantly higher than the surrounding counties. There is also less college and graduate school graduates than in the surrounding counties.

Housing Supply

There were 10,132 housing units in the Study Area during 1999. Since 1999, the Study Area has experienced a 19 percent increase in housing units. Currently, the Study Area contains 12,059

housing units. Imperial and Riverside counties have experienced a 14 percent and 23 percent increase in housing units since 1999, respectively.

Owner-occupied units represent 55 percent of the Study Area's housing units. Imperial and Riverside counties percentage of owner-occupied housing units is 59 percent and 70 percent, respectively. The median value of owner-occupied units in t the Study Area is $95,606. Imperial and Riverside counties median value is $140,606 and $245,354, respectively.

3.5 CRITERIA FOR ECONOMIC STIMULUS ASSESSMENT AND ECONOMIC OPPORTUNITIES

Creation of Short-Term Jobs

In the short-term, jobs will be created by project-related construction and operation activities. It is estimated that construction spending ranging from approximately $300 million to $1.0 billion to restore the Sea could result in the creation of a substantial amount of jobs. Jobs created during the initial construction period could include fish harvesting, improvements to recreation facilities, shoreline cleanup and wildlife disease control. Many of these workers would be from outside the immediate area.

Creation of Long-Term/Permanent Jobs

Successful implementation of the restoration project could result in long-term job creation. The longer-term more permanent jobs will be created by the economic stimulus of improved conditions and increased recreational use at the Sea. The increase in employment opportunities will primarily consist of those jobs related to recreational activities, tourism, retail uses, and the service industries.

3.6 ECONOMIC OPPORTUNITIES

Opportunity Areas

It is assumed that Sea restoration activities would spur the development of residential, commercial and retail land uses. Development capacity associated with these land uses is based on the amount of private, government and agricultural acreage assumed to be available for development in designated subareas surrounding the shore of the Sea. As shown in Figure 3-5, the designated subareas for potential urban development are described below. Not all lands within these subareas would be available for development:

1. Expansion of existing North shore urban area in Riverside County on privately-owned and BLM-managed lands, overlooking the north end of the Salton Sea;
2. Creation of new urban area in Riverside County north of the Sea, as continuation of current development activity in and around Mecca, Thermal, Santa Rosa and Oasis on undeveloped privately-owned and Torrez Martinez lands;
3. Build-out of existing 28,000 privately-owned subdivided lots in Imperial County along Highway 86 corridor from the county line to the southern boundary of Salton City;
4. Assuming a general plan amendment in Imperial County, creation of new urban areas along the Highway 86 corridor south of Salton City and north of San Felipe Creek on the undeveloped privately-owned and BLM-managed lands in this area, which are currently zoned for agricultural or government use; and

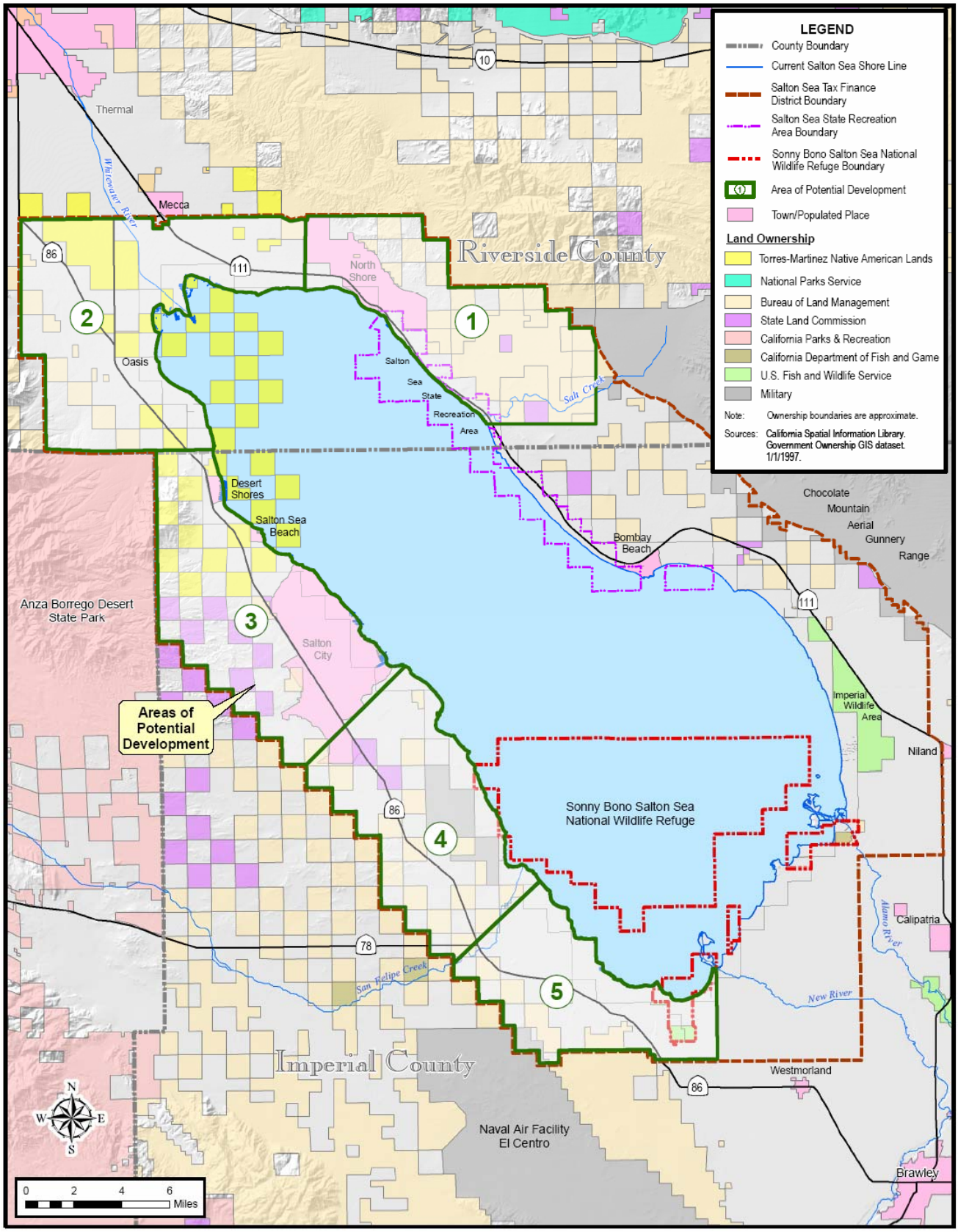


Figure 3-5. Areas of Potential Development.

5. Assuming a general plan amendment in Imperial County, and relocation of Unit 1 of the Sony Bono Salton Sea National Wildlife Refuge, creating new urban areas in existing agricultural lands within the Imperial Irrigation District service area along the Highway 86 corridor southeast of San Felipe Creek and west of Bruchard Road.

New Development Potential

Based on the restoration scenarios, the subarea location and an estimated likelihood of development occurring in a given subarea, factors ranging from 2% to 20% were applied to the gross acreage of a subarea to determine the amount of acres, which could likely be used for development. Once the usable acres were converted to square feet a floor-area ratio [FAR] of 30% was applied to arrive at the subareas development capacity. The following table presents the estimated development capacity by subarea for the restoration program (Table 3-4).

Table 3-4. Salton Sea Development Program.

	Riverside County Developable Sq. Ft.		**Imperial County Developable Sq. Ft.**	**Total Developable Sq. Ft.**
Desert Shore	25,573,423	West Shore	62,933,221	
North Shore	26,026,908	East Shore	14,769,454	
Whitewater Delta	5,586,476	Southeast Shore	-	
East Shore	78,948,088	Imperial Valley Ag.	50,344,470	
Total	136,134,875	Subtotal	128,046,145	264,181,019

Development assumed to be on par with development trend over the past 20 t 30 years and is represented by a 2.0% growth rate in the revenue projections. No specific development is assumed.

A per square foot construction value which ranged from $85.00 to $100.00 was used to estimate development costs.

Potential Land Uses

Based on land uses historically known to exist in the areas surrounding the Sea, it is envisioned that demand for recreational facilities, hotels, commercial retail, and housing units would be evident. Table 3-5 presents development potential by land use category.

Table 3-5. Development By Land Use Category.

Riverside County	Industrial *	Commercial *	Residential **
Desert Shore	-	2,557,342	6,138
North Shore	-	2,602,691	6,246
Whitewater Delta	-	558,648	1,341
East Shore	-	7,894,807	28,421
Imperial County			
West Shore	-	6,293,222	22,656
East Shore	-	1,476,945	5,317
Southeast Shore	-	-	-
Imp. Valley Ag.	-	503,445	14,096
Total	-	21,887,100	84,215

* Square Feet
** Residential Units

Job Creation

As previously mentioned there are approximately 7,900 employees within the boundaries of the Study Area. This level of employees represents approximately 5.0% of the total employees within the Coachella Valley (approximately 150,000 employees). The Coachella Valley Association of Governments [CVAG] is comprised of ten eastern Riverside County cities, three Indian Tribes and the County itself, and is responsible for addressing issues of valley-wide significance.

According to CVAG, employment in the Coachella Valley is projected to increase at a rate of 3.2% per year resulting in nearly 270,000 jobs by the year 2030. Continued growth in employment at this rate could result in approximately 507,000 jobs by the year 2050. Based on the development potential estimated within the Study Area, approximately 31,267 jobs could be created by the year 2050. This level of new jobs would represent approximately 5.0% to 6.0% of the total jobs created within the Coachella Valley by the year 2050 (Table 3-6).

Table 3-6. Number of Jobs.

Area	Year 2005	%	Year 2050	%
Study Area	7,900	-	31,267	-
CVAG[1]	150,000	5	507,000	6
CVAG[2]	-	-	583,000	5

[1] Job growth as identified by CVAG.
[2] Assumes a 15.0% increase in CVAG projects due to Sea improvements.

Potential Revenue

Revenue projections incorporate the following assumptions:

- The base tax rate is 1.0%. Per IFD legislation the school districts portion of tax rate are not eligible for participation in an IFD and must be pass-through to the districts. The districts represent nearly 0.4472% percent in Imperial County and 0.5431% in Riverside County. Thus the projections assume a tax rate of 0.5527% for Imperial County and 0.4568% for Riverside County.
- Assessed values are generally assumed to increase at 2.0% per year.
- Assumes development assumption for the Sea restoration.

Taxing Entities

Portions of the growth in property tax revenue generated would be diverted as a result of new development from taxing agencies in both Riverside and Imperial Counties. Listed in the tables on the following page are the affected taxing agencies for both Riverside (Table 3-7) and Imperial Counties (Table 3-8).

For the purpose of this study, estimates of new development plus a straight 2.0% per year growth factor to increase the assessed value in Imperial County and in Riverside County were used. The growth factor reflects the standard Proposition 13 inflation adjustment so as to not overstate the revenue projections.

Revenue projections were prepared for this effort. The revenue projections assume a base year of 2006-07. Revenues are projected over a 45-year period (fiscal years 2006-07 through 2051-52). Detailed revenue projections for each county are presented in Appendices D and E.

Table 3-7. Riverside County Taxing Agencies.

Riverside County	CV-Mecca Comp Unified	County Service Area 125*	CVWD Imp Dist 17
County Free Library	CV-Oasis Comp Unified	CSA 152	CVWD Imp Dist 50
County Structure Fire Protection	CV-Oasis/Mecca Comp Unified	Coachella Valley Public Cemetery	CVWD Imp Dist 55
Supervisorial Road District 4	CV-Thermal U Comp Unified	SO Coachella Valley CSD	CVWD Service Area 42
Airports-1988 Chiriaco	CV-Thermal/Mecca Comp Unified	CV MOSQ & Vector Control	Citrus Pest Control
Project 4-Thermal	Desert Community College	Coachella Valley Recreation and Park	Coachella Valley Resource Conservation
Project 4-Mecca	Riverside County Office of Education	CVWD Imp Dist 15	CVC Water District 1 Debt Service
Project 4-North Shore	County Waste Resource Mgmt Dist	Coachella Valley Water District	CVWD Salton Sea Annex
Coachella Valley Unified School	Riverside County Reg Park & Open Space	CVWD Imp Dist 10	Coachella Valley County Storm Water
Coachella Valley Jt Bld High	County Service Area 97*	CVWD Imp Dist 13	

Source: Riverside County Auditor Controller.

Table 3-8. Imperial County Taxing Agencies.

Imperial County	Juvenile Hall	CVCWD General	Coachella Community College
Riverview Cemetery	Aurally Handicapped	CVCWD 13	RC Development Center
Pioneers Memorial Hospital	Superintendent of Schools	CVCWD 14	RC Reg. Occupancy Program
City of Westmorland	Development Center	CVCWD 15	RC Phys. Handicapped
Imperial Community College	County Library	CVCWD 51	RC SMR
Brawley Union High	County Fire Protection	CVCWD Stormwater	RC Capital Outlay
Westmorland Elementary	Calipatria Unified	Salton Community Services District	RC Child Development Center
Childrens Institution Tuition	Niland Fire	Sea Oasis Community Services	Physically Handicapped
Niland Sanitary	CVCWD 11	Trainable SMR	Bombay Beach
Coachella Valley Unified			

Source: Imperial County Auditor Controller .

Table 3-9 presents a summary of the cumulative net tax increment revenues that would be generated in the Riverside and Imperial County portions of both the Project Area. The table shows the amount of revenue that would be retained by the Authority assuming receipt of all but school district revenue and no tax increment revenue (after school district revenue is deducted) is paid to the affected taxing agencies. These revenue amounts are also expressed in present value terms based upon a 6.0% discount rate. Supporting calculations for the data provided in Table 3-9 are provided in Appendices E and F, for Imperial and Riverside Counties, respectively.

It is estimated that, restoration of the Sea could result in incremental property taxes to support restoration with a net present value amount of approximately $626 million. It is envisioned that Salton Sea restoration could stimulate the development of new residential housing units within

proximity of the Sea. For the purposes of this analysis, given the available land base, it was estimated that about 80,000 units to be constructed over a period of 30- to 40-years upon completion of the restoration project, primarily in Regions 1, 2 and 3 along the northern and western shore of the Salton Sea (see Figure 3-5).

In a report prepared by Rosenow Spevacek Group, Inc. (RSG, December 2003), it was estimated that the present value of incremental property tax revenues in the amount of nearly $400 million could be generated as a result of improving the Sea. Due to increasing property values in California over the past few years coupled with the availability of government land for new development, the amount of potential revenue has increased from nearly from $400.0 million to over $626 million in property tax revenue.

California Senate Bill SB 1214 (Kuehl) Salton Sea Restoration: Restoration Study (Chapter 614, Statutes of 2004) provides further details of the Salton Sea Restoration Study required by the Salton Sea Restoration Act and requires that alternatives be identified in a restoration plan to be developed by The Resources Agency. The bill also includes provisions for the use of an Infrastructure Finance District and a Benefit Assessment District to support construction and operation, respectively of a restoration project

Table 3-9. Authority Tax Increment Financing: Infrastructure Financing District Alternative Full Restoration Scenario.

Cumulative Net Revenue (FY 2006-07 thru 2051-52)			
	IFD		
	Riverside	Imperial	Combined
Project Area	$ 1,917,481,802	$ 2,052,611,036	$ 3,970,092,839
Net Present Value of Cumulative Net Revenue (FY 2004-05 thru 2049-50)			
	IFD		
	Riverside	Imperial	Combined
Project Area	$ 300,062,097	$ 326,923,724	$ 626,985,821

NPV assumes discount rate of 6.0%
Each table assumes full tax rate @ 0.5527% for Imperial and 0.4568% for Riverside.
Each table assumes annual growth rate of 2.0% for Imperial and Riverside.

3.7 EXTERNAL ECONOMIC OPPORTUNITIES

As previously noted, during the 2003/2004 fiscal year the Salton Sea SRA received approximately 227,533 visitors. Additionally, it was noted that, an estimated 45,000 vehicles a year enter the Sony Bono NWR. A report prepared by DKSA estimated that in 2003 the average expenditures per person per day within Riverside County to be $92.50, excluding transportation costs.

Assuming that on average $92.50 per person per day was spent by visitors to the Salton Sea SRA, total expenditures by 227,553 visitors would be $21,048,653. Additionally, assuming a minimum of two (2) passengers per vehicle, approximately 90,000 people visit the Sony Bono NWR annually. Based on the conservative estimate of $92.50 per person per day, total expenditure would be $8,325,000.

Import Substitution Analysis

In the 1970's, the BEA developed a method for estimating regional input-output [I-O] multipliers known as RIMS [Regional Industrial Multiplier System]. In the 1980's, BEA

completed an enhancement of RIMS, known as RIMS II [Regional Input-Output Modeling System]. RIMS II generates output, earnings, and/or employment multipliers for any region composed of one or more counties and for any industry, or group of industries, in the national I-O table. The multipliers are used to estimate the total impact of a project or program on regional output, earnings, and /or employment. Two sets of multipliers were obtained from the BEA, one set for Imperial County and the other for Riverside County given that the construction and operation of solar ponds and disposal facilities would take place in both of these counties. The output multiplier for construction activity in Imperial County, calculated by RIMS II was 2.12, which meant that every dollar spent in Imperial County for the construction of Solar ponds, disposal facilities, and other associated programs would generate an additional output within the County. In Riverside County, the comparable multiplier for construction was a little higher at 2.28 because of its more diversified industrial base. It is estimated that operation and maintenance of the pond would have minor positive impacts in the region, and could generate negligible induced employment. Thus, no estimates were made.

As previously noted construction spending could range from approximately $300 million to $1.0 billion. Using the total investment amount of construction and restoration related spending (output), employee earnings (earnings) and the total number of jobs (employment) created as a result of restoring the Sea has been calculated through the use of RIMS II multipliers. Calculations are provided for the construction activities (Tables 3-10, 3-11, and 3-12).

Table 3-10. Economic Benefits of Restoring the Salton Sea ($300 Million Investment).

Construction	**Riverside**	**Imperial**	**Combined**	**Direct Investment**	**Indirect Benefit**
Total Benefit	$ 205,569,000	$ 445,221,000	$ 650,790,000	$ 300,000,000	$ 350,790,000
Employment	1,030	2,679	3,710	287	3,423
Operations					
Output	n/a	n/a	n/a	n/a	n/a

Table 3-11. Economic Benefits of Restoring the Salton Sea ($500 Million Investment).

Construction	**Riverside**	**Imperial**	**Combined**	**Direct Investment**	**Indirect Benefit**
Total Benefit	$ 342,615,000	$ 742,035,000	$ 1,084,650,000	$ 500,000,000	$ 584,650,000
Employment	1,717	4,466	6,183	478	5,705
Operations					
Output	n/a	n/a	n/a	n/a	n/a

Table 3-12. Economic Benefits of Restoring the Salton Sea ($1.0 Billion Investment).

Construction	**Riverside**	**Imperial**	**Combined**	**Direct Investment**	**Indirect Benefit**
Total Benefit	$ 685,230,000	$ 1,484,070,000	$ 2,169,300,000	$1,000,000,000	$1,169,300,000
Employment	3,435	8,931	12,366	957	11,410
Operations					
Output	n/a	n/a	n/a	n/a	n/a

Local Economic Functions Analysis

The Proposed Project assumes restoration of the entire Sea. Under this program the Sea would be maintained at or slightly below its current size and elevation. The construction and operation of the restored and revitalized Sea are likely to result in positive economic effects on communities immediately adjacent to the shoreline of the Sea as well as Imperial and Riverside Counties.

Assuming an investment ranging from approximately $300 million to $1.0 billion over five years to restore the Sea, positive economic effects could include increased spending for wages of workers from the local area, increased profits to local material suppliers and service providers as well as increases in short- and long-term job creation.

REFERENCES

Bazdarich, M. 1998. "An Economic Analysis of the Benefits of Rehabilitating the Salton Sea". Inland Empire Economic Databank and Forecasting Center. The A. Gary Anderson Graduate School of Management. University of California, Riverside.

Black, G. F. 1988. "Description of the Salton Sea Sport Fishery, 1982-83." Inland Fisheries. Administrative Report No. 88-9. http://www.sci.sdsu.edu/salton/SSSportFishery1988.html

---. 1985. "Salton Sea Sport Fishery". Inland Fisheries. California Department of Fish and Game. Region 5. Informational Bulletin No. 0010-5-1985.

CIC Research, Inc. 1989. The Economic Importance of the Salton Sea Sportfishery: A Report to the California Department of Fish and Game. San Diego, California. http://www.sci.sdsu.edu/salton/EconImpSSSportfishery3.htm

Costa-Pierce, B. and R. Riedel. 2000. "Fisheries ecology of the tilapias in subtropical lakes of the United States." In B.A. Costa-Pierce and J. Rakocy (eds.) Tilapia Aquaculture in the Americas, 2. The World Aquaculture Society, Baton Rouge, Louisiana.

U.S. Department of Interior (US DOI). 1970. Federal Water Quality Administration. Pacific Southwest Region. Water Quality and Ecological Management Considerations. Salton Sea, California.

Development Research Associates (DRA). 1969. Economic Benefits Derived from Water and Lands Surrounding the Salton Sea. California.

Horvitz, Steve. 1998. "A Bit of Eden." http://www.sci.sdsu.edu/salton/ABitOfEden.html

Horvitz, S. 1999. "Salton Sea 101." http://www.saltonsea.ca.gov/ss101.htm

Onaka et all. 1995. Salton Sea Management Project Economic Profile Study.

The Redlands Institute. 2005. Salton Sea Database Program.

---. 2005. Salton Sea: California's Everglades.

Rosenow Spevacek Group, Inc. (RSG) 2003. The Salton Sea: Tax Increment Financing Feasibility Study.

Rose Institute of State and Local Government, C.M.C. 1999. Report to the Salton Sea Authority Economic Development Task Force: 2. http://www.saltonsea.ca.gov/ltnav/library_content/Values/saltonsea_1999.pdf

Salton Sea Advisory Committee (SSAC). 2004. Salton Sea Ecosystem Management Plan: Initial Draft Report for Existing Baseline Conditions. http://www.saltonsea.water.ca.gov/adcomm/baseline.cfm

Salton Sea Advisory Committee (SSAC). 2005. Salton Sea Ecosystem Management Plan: Administrative Draft Alternative Concepts Report.

Salton Sea Authority (SSA) and U.S. Bureau of Reclamation. 2000. Draft: Salton Sea Restoration Project Environmental Impact Statement/Environmental Impact Report.

Salton Sea Authority (SSA). *Outdoor Recreation Advisory Committee Report to the Salton Sea Authority Board.* 2004.

---. 2005. Salton Sea Authority Homepage. www.saltonsea.ca.gov.

---. 2005. *Work Plan for Assessment of Recreation and Local Economic Opportunities Salton Sea Ecosystem Management Program.*

Salton Sea State Recreation Area Homepage. 2005. www.saltonsea.statepark.org.

U.S. Bureau of Land Management (BLM) Homepage. 2005. www.ca.blm.gov/elcentro/salton_sea.html.

U.S. Bureau of Reclamation (USBR) Homepage. 2005. www.usbr.gov/lc/region/saltnsea/ssbro.html.

---. 1999. The Salton Sea Restoration Project: Opportunities and Challenges. U.S. Bureau of Reclamation. Salton Sea Project Office.

---. 1998. The source, transport, and fate of selenium and other contaminants in hydrological and biological cycles of the Salton Sea area. Salton Sea/Lower Colorado Study. www.lc.usbr.gov/~scao/index.html.

U.S. Census Bureau. 2004. US Bureau of Census 2000 Census of Population Summary Characteristics. California.

U.S. Fish and Wildlife Service (USFWS) Homepage. 2005. www.fws.gov/pacific/saltonsea.

U.S. Geological Society (USGS) Homepage. 2005. http://ca.water.usgs.gov.

U.S. Public Law 105-372. 1998. The Salton Sea Reclamation Act of 1998.

Appendix A
RECREATIONAL OPPORTUNITIES SURVEY FORM

The survey form used to assess recreational opportunities and solicit public opinion on recreation priorities is provided on the following pages.

Salton Sea Ecosystem Restoration Program
Recreation Opportunities Survey

TO: Survey Recipient

FROM: California Department of Water Resources and Salton Sea Authority

The Salton Sea Authority (Authority) is working with the California Department of Water Resources (DWR) in developing prioritized recommendations for Recreation activities and facilities at the Salton Sea that can be considered as "project elements" in the range of alternatives that DWR will evaluate in their programmatic Environmental Impact Report (EIR) for the Salton Sea Ecosystem Management Plan. DWR has asked the Authority to develop and document an appropriate prioritized listing of specific recreational activities, user areas, facilities, services, and other amenities, consistent with the ecosystem management focus of the program, that address protection and possible enhancement of recreation values surrounding the Salton Sea. The Authority is requesting feedback from the Advisory Committee, the Authority mailing list, the DWR Salton Sea Restoration mailing list, and interested members of the public to identify and prioritize recreation activities, facilities, and locations that can be summarized and carried forward for further evaluation.

The Recreation Opportunities Survey Format

The Authority has developed a survey format for your use in identifying priority activities, facilities to support these activities, and areas where these facilities could be implemented. The survey consists of three sheets, and is accompanied by a location map showing different "zones" around the Sea where recreation facilities could be located.

Your Feedback for the Recreation Opportunities Survey

You are receiving this survey because of you have previously expressed interest in Salton Sea ecosystem restoration issues. Please help us set recreational priorities for the Sea as part of the ecosystem restoration process:

- If you are familiar with recreational opportunities at the Salton Sea area, please give us your opinions about which opportunities should be given the greatest priority by completing the first sheet of the survey.
- If you are also familiar with the existing recreational facilities around the Sea, also please complete second and third sheets.

Instructions for completing the survey are provided on the following page. ***In completing the survey you should assume that recreational features would be developed in concert with water quality improvements and that the Sea would have lower salinity, better overall water quality and a stable water surface.***

Instructions for Completing the Survey

Sheet 1 – Recreation Activities

An initial listing of recreation opportunities has been developed based on previous work by the Authority's Outdoor Recreation Activities Task Force, previous studies and environmental documents prepared for the Salton Sea, Authority input, and other sources.

Based on your knowledge of the Salton Sea area and the potential for new or enhanced recreation opportunities, prioritize the initial listing of opportunities shown in Table 1. Activities to which you give "high" priority should receive higher scores (10, 9, etc.). Activities to which you give "low" priority should receive lower scores (2, 1, 0, etc.). If an activity that you feel should be considered is not listed, please add it at the bottom of Table 1 ("Others"), and indicate the priority it should receive.

Sheet 2 – Recreation Facilities

Based on your responses in Table 1, identify and prioritize the recreation facilities needed to serve the types of activities you identified. Feel free to mark up or change the language in the "Facilities" column to best identify the types of facilities you feel are required to support the priority of the recreation "Activities" you identified.

Sheet 3 – Locations of Recreation Facilities

Based on your responses in Tables 1 and 2, please rank the priority of implementing each facility type by where (in which "zone") it should be located, as shown on the enclosed map.

Feedback from the Recreation Opportunities Study

If you have any questions regarding the survey format, your responses to the survey, or the Authority/DWR restoration evaluation process, please contact David Connally at (949) 291-6557, or at david.connally@tetratech.com.

Please print the survey forms and complete the survey as discussed above. Please identify yourself at the top of Page 1 of the survey, so that the Authority gets a sense of the breadth of the responses to the survey request. Please return the completed survey by **fax** to David Connally at (626) 470-2126, or by **mail** to:

David Connally
Tetra Tech, Inc.
3475 E. Foothill Boulevard
Pasadena, California 91107

Please fax or mail the completed survey by June 10, 2005.

DWR and the Authority thank you for your continued support of the Salton Sea ecosystem restoration process.

Name_____
(please print your name)

1. Salton Sea Recreational ACTIVITY Priority Survey

Recreational Opportunity	**Highest Priority** "Must Have"										**Lowest Priority** "Nice to Have"
1. Boating											
-Kayaking	10	9	8	7	6	5	4	3	2	1	0
-Power boating/Sailboating	10	9	8	7	6	5	4	3	2	1	0
2. Camping											
-Guest rentals	10	9	8	7	6	5	4	3	2	1	0
-Recreational Vehicle (RV)	10	9	8	7	6	5	4	3	2	1	0
-Tent	10	9	8	7	6	5	4	3	2	1	0
3. Fishing											
-Freshwater	10	9	8	7	6	5	4	3	2	1	0
-Marine fishery	10	9	8	7	6	5	4	3	2	1	0
4. Off-Road Vehicle Use	10	9	8	7	6	5	4	3	2	1	0
5. Resort activities											
-Resort/Gaming	10	9	8	7	6	5	4	3	2	1	0
-Resort/Golf	10	9	8	7	6	5	4	3	2	1	0
6. Trail-related											
-Biking	10	9	8	7	6	5	4	3	2	1	0
-Hiking	10	9	8	7	6	5	4	3	2	1	0
-Horseback riding	10	9	8	7	6	5	4	3	2	1	0
7. Wildlife-related											
-Birdwatching/Photography	10	9	8	7	6	5	4	3	2	1	0
-Hunting	10	9	8	7	6	5	4	3	2	1	0
8. Water contact											
-Personal watercraft	10	9	8	7	6	5	4	3	2	1	0
-Swimming/sunbathing	10	9	8	7	6	5	4	3	2	1	0
-Windsurfing	10	9	8	7	6	5	4	3	2	1	0
9. Other											
-Photography-general	10	9	8	7	6	5	4	3	2	1	0
-Skydiving	10	9	8	7	6	5	4	3	2	1	0
Others											
	10	9	8	7	6	5	4	3	2	1	0
	10	9	8	7	6	5	4	3	2	1	0
	10	9	8	7	6	5	4	3	2	1	0

Instructions

1. Please provide your opinion of the **priority** that each recreational activity should be afforded.
2. Circle the numbers to indicate your priorities with **10 being the highest and 0 being the lowest**.
3. Feel free to **add other activity oppportunities** that you feel should be included, but that are not listed.

revised 05/24/2005

2. Salton Sea Recreational FACILITY Priority Survey

Recreational Facilities	**Highest Priority** "Must Have"										**Lowest Priority** "Nice to Have"
1. Boating											
-Kayaking - designated area	10	9	8	7	6	5	4	3	2	1	0
-Power boating/Sailboating - improve existing marina/launch facilities	10	9	8	7	6	5	4	3	2	1	0
-Power boating/Sailboating - add new marina/launch facilities	10	9	8	7	6	5	4	3	2	1	0
2. Camping											
-Guest rentals	10	9	8	7	6	5	4	3	2	1	0
-Recreational Vehicle (RV) hookups	10	9	8	7	6	5	4	3	2	1	0
-Tent - sanitation facilities	10	9	8	7	6	5	4	3	2	1	0
3. Fishing											
-Freshwater - lake(s)	10	9	8	7	6	5	4	3	2	1	0
-Marine fishery - improved shore access (dikes, jettys, etc.)	10	9	8	7	6	5	4	3	2	1	0
-Marine fishery - ecological refuge (low disturbance, no vehicles, etc.)	10	9	8	7	6	5	4	3	2	1	0
4. Off-Road Vehicle Use area(s)	10	9	8	7	6	5	4	3	2	1	0
5. Resort activities											
-Resort/Gaming facilities	10	9	8	7	6	5	4	3	2	1	0
-Resort/Golf course(s)	10	9	8	7	6	5	4	3	2	1	0
6. Trail-related											
-Biking trails	10	9	8	7	6	5	4	3	2	1	0
-Hiking trails	10	9	8	7	6	5	4	3	2	1	0
-Horseback riding trails	10	9	8	7	6	5	4	3	2	1	0
7. Wildlife-related											
-Birdwatching/Photography - designated areas/observation facilities	10	9	8	7	6	5	4	3	2	1	0
-Hunting - designated areas	10	9	8	7	6	5	4	3	2	1	0
8. Water contact											
-Personal watercraft - designated area	10	9	8	7	6	5	4	3	2	1	0
-Swimming/sunbathing - designated area	10	9	8	7	6	5	4	3	2	1	0
-Windsurfing - designated area	10	9	8	7	6	5	4	3	2	1	0
9. Other											
-Photography-general [no specific facilities required]											
-Skydiving area	10	9	8	7	6	5	4	3	2	1	0
Others											
	10	9	8	7	6	5	4	3	2	1	0
	10	9	8	7	6	5	4	3	2	1	0
	10	9	8	7	6	5	4	3	2	1	0

Instructions

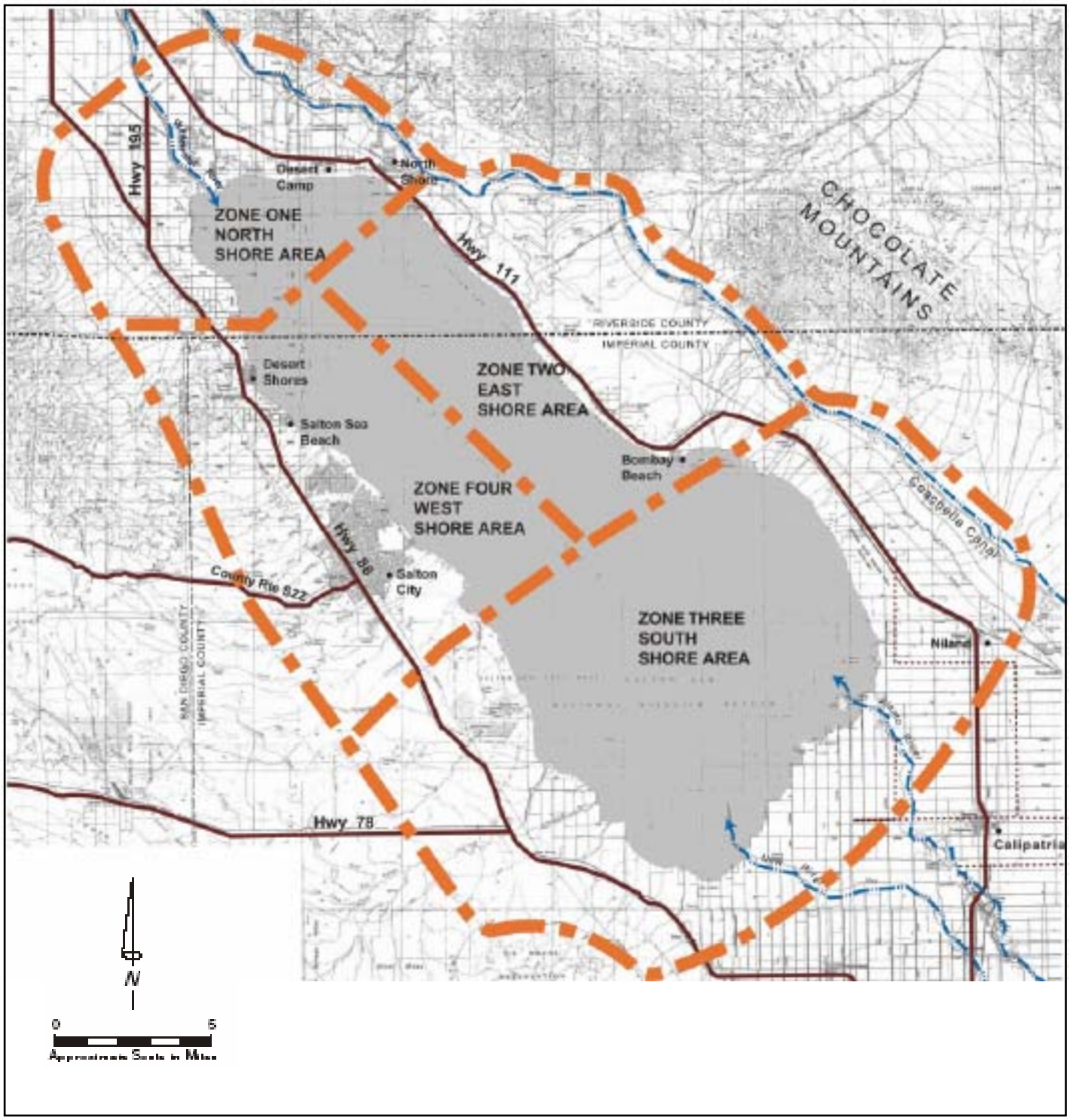
1. Consistent with your opinion of the priority of recreation activities in Table 1, please provide your opinion of the **priority** that each type of recreational facility should be afforded.
2. Circle the numbers to indicate your priorities with **10 being the highest and 0 being the lowest**.
3. Feel free to **add other types of facilities**, consistent with your additions to Table 1, that you feel should be included, but that are not listed. revised 05/24/2005

3. Salton Sea Recreational Facilities Survey: LOCATION OF FACILITIES

Recreational Facilities	**Indicate the Order of Facility Needs by Ranking Zones from 1 to 4**			
	Zone 1 - North Shore	**Zone 2 - East Shore**	**Zone 3 - South Shore**	**Zone 4 - West Shore**
1. Boating				
-Kayaking - designated area				
-Power boating/Sailboating - improve existing marina/launch facilities				
-Power boating/Sailboating - add new marina/launch facilities				
2. Camping				
-Guest rentals				
-Recreational Vehicle (RV) hookups				
-Tent - sanitation facilities				
3. Fishing				
-Freshwater - lake(s)				
-Marine fishery - improved shore access (dikes, jettys, etc.)				
-Marine fishery - ecological refuge (low disturbance, no vehicles, etc.)				
4. Off-Road Vehicle Use area(s)				
5. Resort activities				
-Resort/Gaming facilities				
-Resort/Golf course(s)				
6. Trail-related				
-Biking trails				
-Hiking trails				
-Horseback riding trails				
7. Wildlife-related				
-Birdwatching/Photography - designated areas/observation facilities				
-Hunting - designated areas				
8. Water contact				
-Personal watercraft - designated area				
-Swimming/sunbathing - designated area				
-Windsurfing - designated area				
9. Other				
-Skydiving area				
Others				

Instructions

1. Consistent with your opinion of the priority of recreation facilities in Table 2, please provide your opinion of the **priority** that each type of recreational facility should be afforded for each zone around the Salton Sea (REFER TO ENCLOSED MAP SHOWING ZONES).
2. For each facility, rank the needs for each zone from **1 to 4; the zone with the greatest need would be ranked 1**, second would be ranked 2, etc.
3. Feel free to **add prioritzed locations for other types of facilities**, consistent with your additions to Table 2, that you feel should be included, but that are not listed.



Salton Sea Recreational Study Area Zones

Appendix B
RECREATIONAL OPPORTUNITIES SURVEY RESULTS

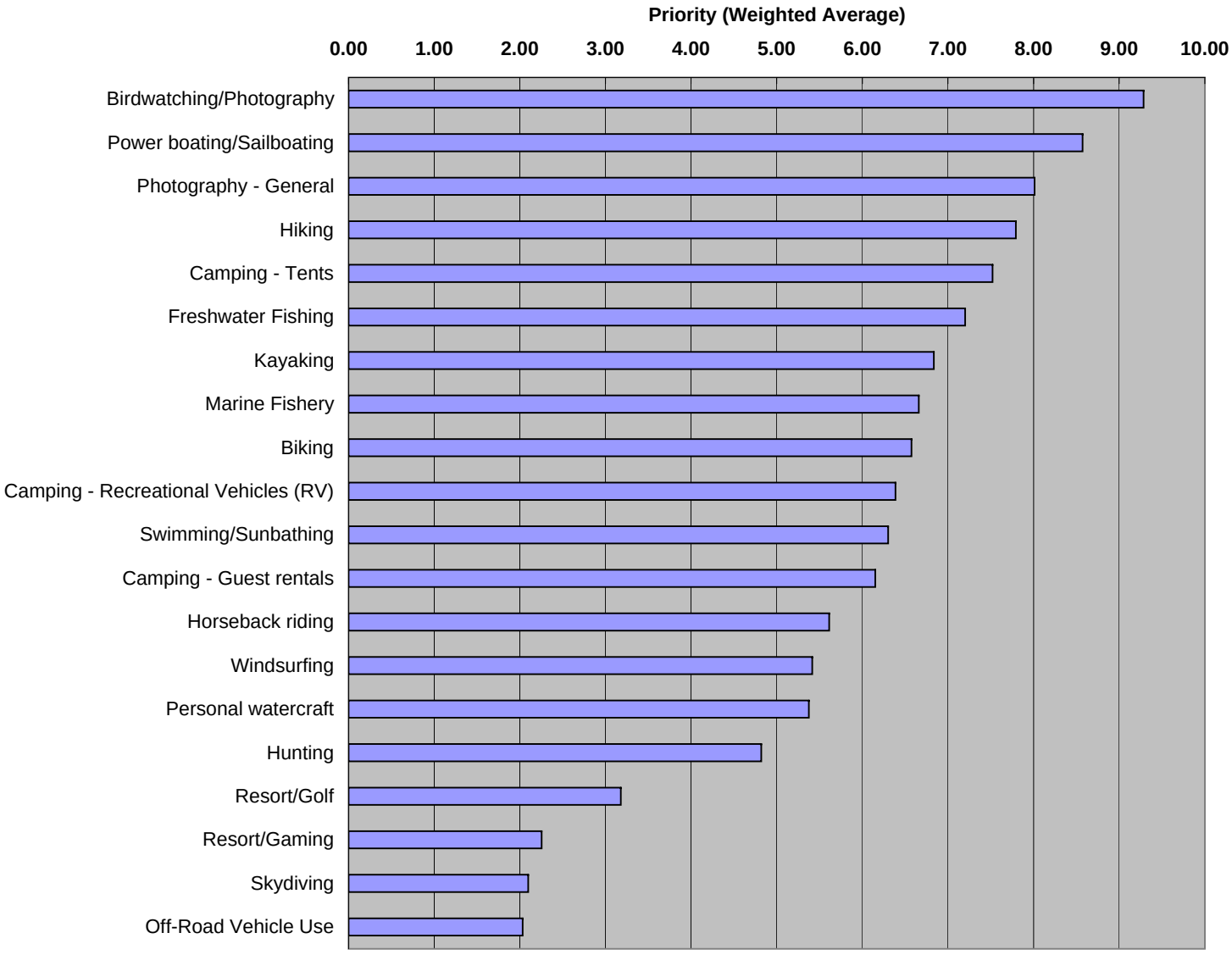
A written Recreation Opportunities Survey was developed and given to each Outdoor Recreational Activities Task Force (ORATF) member in order to formally develop recommendations regarding recreation opportunities associated with an ecosystem restoration program. The survey asked each ORATF member to identify and prioritize recreation activities that they recommended to be implemented or expanded at the Salton Sea, the types of facilities that would be required to support those activities, and the general area of the Salton Sea where these opportunities could be implemented.

At the request of the Advisory Committee of the DWR's Salton Sea Restoration program, the Recreation Opportunities Survey was made available to a wider distribution of stakeholders in the Salton Sea restoration effort. In May 2005, the Authority and DWR made the Recreation Opportunities Survey available by email and website to their respective mailing lists of persons and organizations that had previously expressed interest in Salton Sea issues. Feedback on the listing presented in the survey form was also solicited from the public at two meetings held on April 28, 2005 in Desert Shores and Calipatria.

The results of the recreational opportunities survey for both the ORATF and the general survey are provided on the following pages. A total of 96 individuals completed and returned the survey, including 18 members of the ORATF. Results are provided for the entire group and the ORATF separately. Not everyone that participated in the survey completed all section. Numbers of responses for each area are provide with the survey results.

1. Salton Sea Recreational ACTIVITY Priority Survey - Combined Surveys Responses

Recreational Opportunity	No.	Highest Priority "Must Have"								Lowest Priority "Nice to Have"			Ave. Score	Rank
	No.	10	9	8	7	6	5	4	3	2	1	0		
Birdwatching/Photography	95	74	8	3	4	0	2	1	1	0	1	1	9.28	1
Power boating/Sailboating	93	19	7	9	6	3	10	5	4	4	8	18	8.57	2
Photography - General	92	42	10	10	9	3	10	2	1	2	1	2	8.01	3
Hiking	92	33	11	13	13	7	8	0	3	0	2	2	7.79	4
Camping - Tents	94	31	13	14	11	4	6	6	2	3	1	3	7.52	5
Freshwater Fishing	92	25	10	6	10	11	10	1	3	7	1	8	7.20	6
Kayaking	91	21	10	16	9	5	11	5	5	5	1	3	6.84	7
Marine Fishery	91	26	12	6	10	7	11	2	2	4	1	10	6.66	8
Biking	94	18	5	13	15	12	15	5	2	4	3	2	6.57	9
Camping - Recreational Vehicles (RV)	93	23	6	16	11	2	10	3	5	5	6	6	6.39	10
Swimming/Sunbathing	93	26	3	12	11	5	9	4	7	6	2	8	6.30	11
Camping - Guest rentals	93	18	5	15	8	4	15	12	5	2	5	4	6.15	12
Horseback riding	93	10	5	12	10	10	18	7	7	2	8	4	5.61	13
Windsurfing	94	17	5	9	10	4	13	3	10	8	5	10	5.41	14
Personal watercraft	94	16	4	4	6	3	8	4	3	5	5	36	5.38	15
Hunting	94	21	3	2	9	3	10	10	4	4	9	19	4.82	16
Resort/Golf	95	7	2	9	4	6	5	6	3	5	10	38	3.18	17
Resort/Gaming	94	5	3	2	3	2	8	7	0	2	14	48	2.26	18
Skydiving	92	3	1	1	2	3	12	0	7	11	11	41	2.10	19
Off-Road Vehicle Use	92	3	3	6	4	1	2	3	4	4	6	56	2.03	20
Write-Ins														
Astonomy Education w/Photography														
Ballooning/Kite Surfing														
Bird/Wildlife Conservation/Interpretation														
Cultural tourism														
De-Saliniation of Sea														
Eco-Education Camp														
Fee-Fishing Lakes														
Geo-caching														
Geo-thermal Facility Tours														
Horsehoe Pits														
Nature Interpretive Center														
Open Space														
Outdoor Gathering Space/Ampatheater														
Peg Leg Mine Tours														
Riffle Range														
Rockhounding														
Skeet/Trap Shooting														
Snorkeling/Diving														
Ultralight/Parasailing														

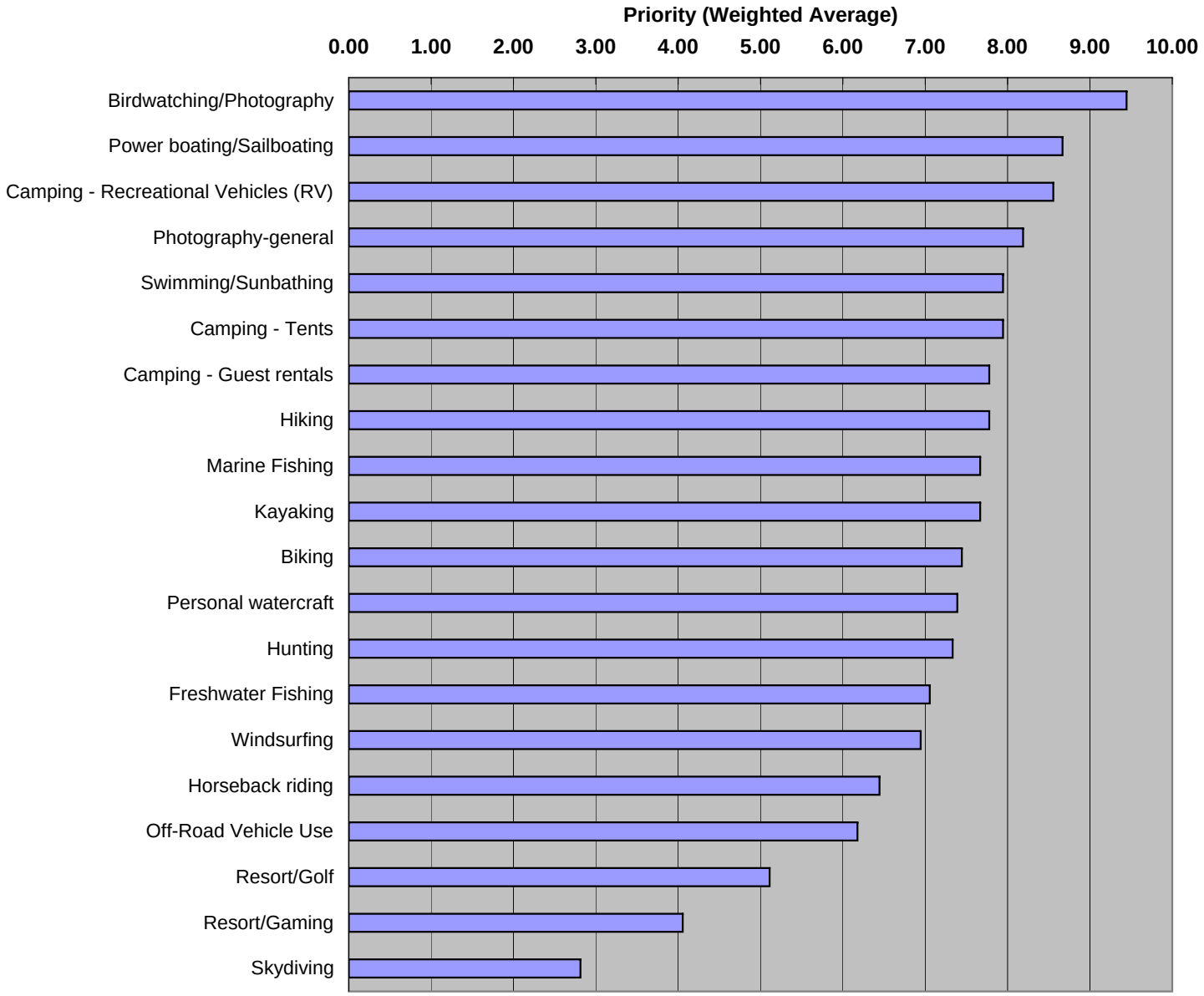


1. Salton Sea Recreational ACTIVITY Priority Survey - Combined Surveys Responses

revised 03/30/2005

1. Salton Sea Recreational ACTIVITY Priority Survey - ORATF Responses

Recreational Opportunity	No.	Highest Priority "Must Have"								Lowest Priority "Nice to Have"			Ave. Score	Rank
	No.	10	9	8	7	6	5	4	3	2	1	0		
Birdwatching/Photography	18	13	2	1	2	0	0	0	0	0	0	0	9.44	1
Power boating/Sailboating	18	10	1	3	1	1	2	0	0	0	0	0	8.67	2
Camping - Recreational Vehicles (RV)	18	9	1	4	1	1	2	0	0	0	0	0	8.56	3
Photography-general	16	8	1	1	2	1	2	1	0	0	0	0	8.19	4
Swimming/Sunbathing	18	8	0	4	3	1	0	1	0	0	0	1	7.94	5
Camping - Tents	18	7	1	4	3	1	1	0	0	0	0	1	7.94	6
Camping - Guest rentals	18	6	1	5	2	1	2	0	0	0	1	0	7.78	7
Hiking	18	8	0	3	2	1	3	0	0	0	1	0	7.78	8
Marine Fishing	18	9	2	1	1	0	3	0	0	0	0	2	7.67	9
Kayaking	18	6	1	4	2	0	4	0	1	0	0	0	7.67	10
Biking	18	7	0	1	4	2	3	0	0	0	1	0	7.44	11
Personal watercraft	18	6	2	2	3	1	2	0	0	1	0	1	7.39	12
Hunting	18	10	1	0	1	1	0	1	2	0	0	2	7.33	13
Freshwater Fishing	18	6	2	3	1	1	2	0	0	1	0	2	7.06	14
Windsurfing	18	7	0	2	3	1	2	0	0	1	0	2	6.94	15
Horseback riding	18	5	0	2	2	2	3	0	2	1	1	0	6.44	16
Off-Road Vehicle Use	17	2	1	5	4	0	1	0	1	0	0	3	6.18	17
Resort/Golf	18	3	0	4	0	2	1	3	0	0	1	4	5.11	18
Resort/Gaming	18	3	1	1	0	0	2	3	0	0	4	4	4.06	19
Skydiving	16	1	0	1	1	0	2	0	2	1	2	6	2.81	20
Write-Ins														
Ballooning/Kite Surfing														
Cultural tourism														
Geo-caching														
Peg Leg Mine Tours														
Outdoor Gathering Space/Ampatheater														
Riffle Range														
Rockhounding														
Skeet/Trap Shooting														
Snorkeling/Diving														
Ultralight/Parasailing														

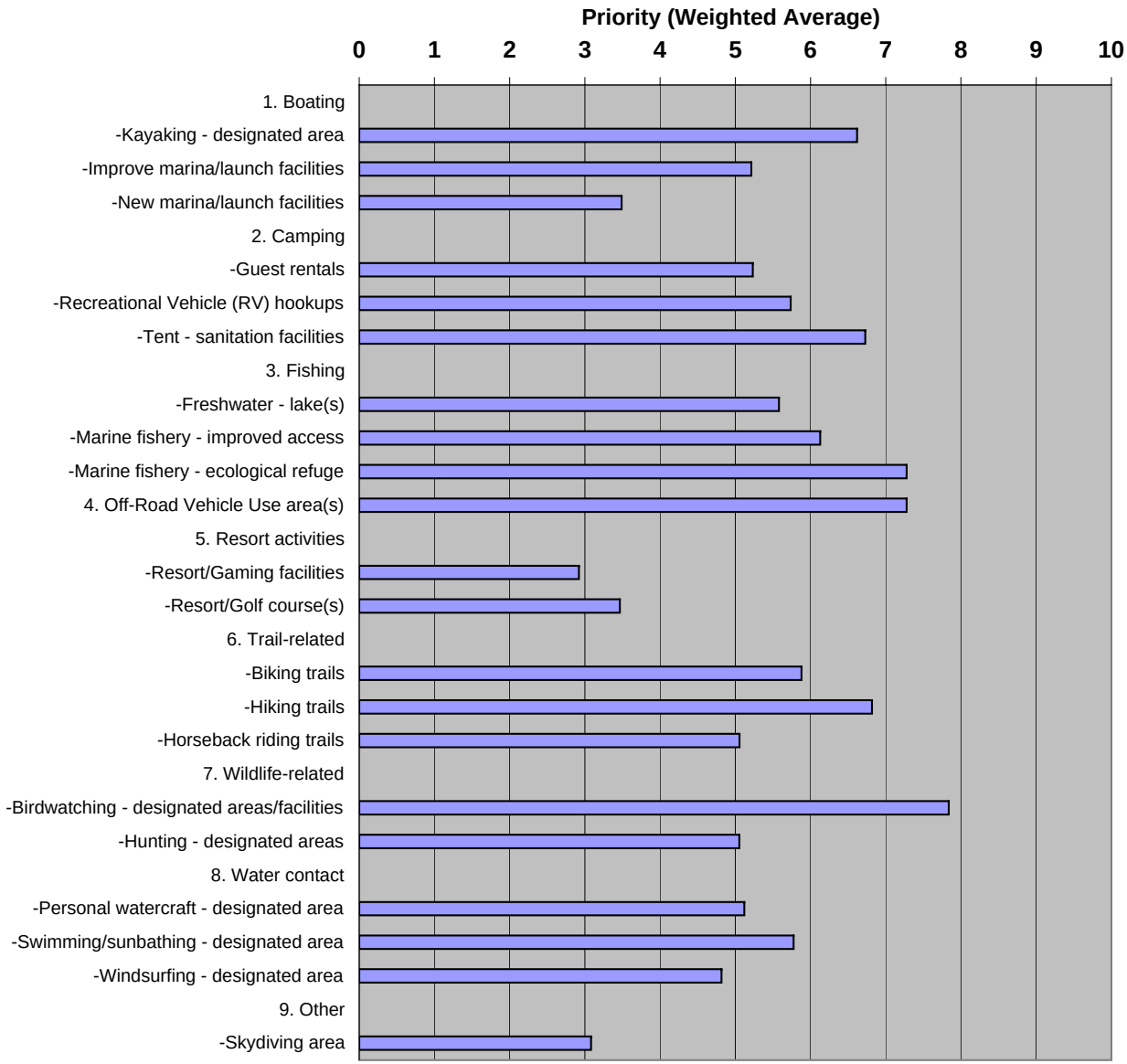


1. Salton Sea Recreational ACTIVITY Priority Survey - ORATF Responses

revised 03/30/2005

2. Salton Sea Recreational FACILITY Priority Survey - Combined Surveys Responses

Recreational Opportunity	Highest Priority "Must Have"									Lowest Priority "Nice to Have"			Wtd. Ave.
	No.	10	9	8	7	6	5	4	3	2	1	0	
1. Boating													
-Kayaking - designated area	76	16	10	14	5	1	12	3	6	4	2	3	6.6
-Improve marina/launch facilities	80	15	6	7	7	2	8	4	8	5	6	12	5.2
-New marina/launch facilities	80	11	1	5	3	0	9	4	3	10	9	25	3.5
2. Camping													
-Guest rentals	86	12	4	12	7	5	13	7	6	3	2	15	5.2
-Recreational Vehicle (RV) hookups	87	17	4	11	13	2	12	5	5	2	3	13	5.7
-Tent - sanitation facilities	92	30	8	16	6	2	8	3	2	3	1	13	6.7
3. Fishing													
-Freshwater - lake(s)	88	20	7	7	6	6	10	5	3	7	1	16	5.6
-Marine fishery - improved access	85	25	6	8	4	7	11	5	1	2	1	15	6.1
-Marine fishery - ecological refuge	90	44	10	7	3	1	3	4	3	1	0	14	7.3
4. Off-Road Vehicle Use area(s)	90	44	10	7	3	1	3	4	3	1	0	14	7.3
5. Resort activities													
-Resort/Gaming facilities	50	5	0	3	1	3	3	3	0	6	8	18	2.9
-Resort/Golf course(s)	58	4	0	4	6	3	5	6	2	5	4	19	3.5
6. Trail-related													
-Biking trails	91	17	5	12	14	4	12	7	3	0	5	12	5.9
-Hiking trails	93	28	9	12	14	3	10	1	1	0	4	11	6.8
-Horseback riding trails	90	6	6	11	10	10	12	9	5	4	4	13	5.1
7. Wildlife-related													
-Birdwatching - designated areas/facilities	93	56	4	8	4	1	6	0	1	0	2	11	7.8
-Hunting - designated areas	75	18	2	4	4	4	11	4	3	6	5	14	5.1
8. Water contact													
-Personal watercraft - designated area	67	15	2	5	6	3	8	2	5	5	2	14	5.1
-Swimming/sunbathing - designated area	89	18	4	15	12	2	10	3	4	3	2	16	5.8
-Windsurfing - designated area	87	14	4	9	6	7	8	2	6	9	3	19	4.8
9. Other													
-Skydiving area	73	4	1	6	3	4	6	1	7	7	14	20	3.1
Others													
Outdoor Gathering Space/Ampatheater													
Peg Leg's Mine Tours													
Riffle Range													
Skeet/ Trap Shooting													



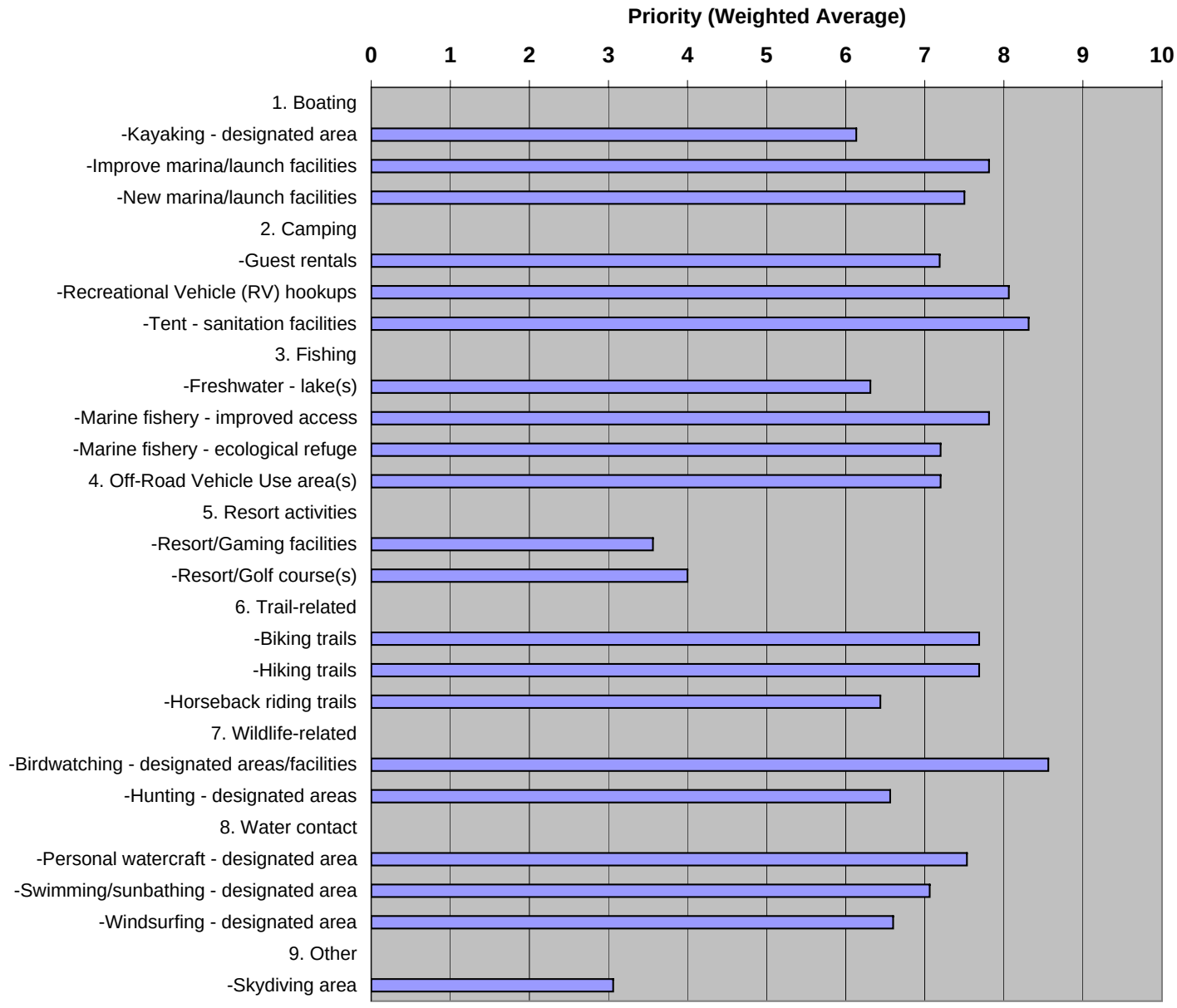
2. Salton Sea Recreational FACILITY Priority Survey - Combined Surveys Responses

revised 03/30/2005

2. Salton Sea Recreational FACILITY Priority Survey - ORATF Responses

Recreational Opportunity		Highest Priority "Must Have"									Lowest Priority "Nice to Have"		Wtd. Ave.
	No.	10	9	8	7	6	5	4	3	2	1	0	
1. Boating													
-Kayaking - designated area	15	3	0	5	1	0	1	1	1	1	1	1	6.1
-Improve marina/launch facilities	16	8	1	2	2	0	1	0	0	0	1	1	7.8
-New marina/launch facilities	16	7	1	3	2	0	0	0	0	1	1	1	7.5
2. Camping													
-Guest rentals	16	5	1	3	3	0	2	0	0	0	1	1	7.2
-Recreational Vehicle (RV) hookups	16	5	2	4	2	0	3	0	0	0	0	0	8.1
-Tent - sanitation facilities	16	7	2	4	1	0	1	0	0	0	1	0	8.3
3. Fishing													
-Freshwater - lake(s)	16	6	0	2	0	1	1	2	0	3	0	1	6.3
-Marine fishery - improved access	16	8	2	2	1	0	0	1	0	0	0	2	7.8
-Marine fishery - ecological refuge	15	8	2	0	0	1	0	1	0	0	0	3	7.2
4. Off-Road Vehicle Use area(s)	15	8	2	0	0	1	0	1	0	0	0	3	7.2
5. Resort activities													
-Resort/Gaming facilities	16	2	0	2	0	2	0	1	0	1	3	5	3.6
-Resort/Golf course(s)	16	1	0	3	1	1	1	3	0	0	0	6	4.0
6. Trail-related													
-Biking trails	16	6	1	1	5	0	2	0	0	0	1	0	7.7
-Hiking trails	16	6	2	1	4	0	1	0	1	0	1	0	7.7
-Horseback riding trails	16	2	2	2	4	1	1	0	3	0	1	0	6.4
7. Wildlife-related													
-Birdwatching - designated areas/facilities	16	9	0	3	1	1	2	0	0	0	0	0	8.6
-Hunting - designated areas	16	7	1	1	1	1	0	0	0	2	1	2	6.6
8. Water contact													
-Personal watercraft - designated area	15	7	0	2	2	1	1	0	0	1	0	1	7.5
-Swimming/sunbathing - designated area	16	4	0	5	3	1	0	1	0	1	0	1	7.1
-Windsurfing - designated area	15	5	0	2	1	4	0	0	0	1	0	2	6.6
9. Other													
-Skydiving area	17	0	0	2	2	2	1	0	0	1	3	6	3.1
Others													
Outdoor Gathering Space/Ampatheater													
Peg Leg's Mine Tours													
Riffle Range													
Skeet/ Trap Shooting													

revised 03/30/2005



2. Salton Sea Recreational FACILITY Priority Survey - ORATF Responses

revised 03/30/2005

3. Salton Sea Recreational Facilities Survey: LOCATION OF FACILITIES - Combined Surveys Responses

Recreational Facilities	No.	Number of Highest Priority Responses			
		Zone 1 - North Shore	Zone 2 - East Shore	Zone 3 - South Shore	Zone 4 - West Shore
1. Boating					
-Kayaking - designated area	47	2.3	2.6	2.5	2.5
-Power boating/Sailboating - improve existing marina/launch facilities	46	2.8	2.2	3.1	1.9
-Power boating/Sailboating - add new marina/launch facilities	40	2.7	2.4	3.3	1.9
2. Camping					
-Guest rentals	36	2.9	2.3	3.1	2.0
-Recreational Vehicle (RV) hookups	42	3.0	2.1	2.9	2.0
-Tent - sanitation facilities	43	2.9	2.0	2.6	2.3
3. Fishing					
-Freshwater - lake(s)	37	2.4	2.4	2.6	2.8
-Marine fishery - improved shore access (dikes, jettys, etc.)	39	2.7	2.0	2.8	2.3
-Marine fishery - ecological refuge (low disturbance, no vehicles, etc.)	41	2.2	2.4	1.8	2.8
4. Off-Road Vehicle Use area(s)	22	3.5	3.3	3.3	3.0
5. Resort activities					
-Resort/Gaming facilities	27	2.5	2.8	3.5	2.4
-Resort/Golf course(s)	33	2.7	3.1	3.5	2.4
6. Trail-related					
-Biking trails	39	2.5	2.2	2.4	2.5
-Hiking trails	44	2.1	2.1	2.1	2.7
-Horseback riding trails	34	3.0	2.4	2.7	2.6
7. Wildlife-related					
-Birdwatching/Photography - designated areas/observation facilities	57	1.8	2.4	1.6	2.7
-Hunting - designated areas	36	2.9	2.6	2.3	3.0
8. Water contact					
-Personal watercraft - designated area	35	3.0	2.3	3.4	2.1
-Swimming/sunbathing - designated area	41	3.0	2.1	3.4	1.9
-Windsurfing - designated area	37	3.0	2.2	3.4	2.2
9. Other					
-Skydiving area	27	3.4	2.7	3.3	2.6
Write-Ins					
Outdoor Gathering Space/Ampatheater					
Peg Leg's Mine Tours					
Dinner on Shoreline					
Fee-Fishing Lakes					
Hiking Trail/Observation Tower at San Sebastian Marsh					
Nature Interpretive Center					
Nature Trails/Boardwalk					
Whitewater River/River mouth access					

Note: Lower numbers indicate higher priority.
Color coding for each activity is as follows:
= Highest priority zone.
= Lowest priority zone.

Values were determined by taking the average for the responses per zone ranked 1 to 4, with 1 being the most prefereable zone location for the activity and 4 being the least preferable zone to locate the activity.

revised 03/30/2005

3. Salton Sea Recreational Facilities Survey: LOCATION OF FACILITIES - ORATF Responses

Recreational Facilities	No.	Number of Highest Priority Responses			
		Zone 1 - North Shore	Zone 2 - East Shore	Zone 3 - South Shore	Zone 4 - West Shore
1. Boating					
-Kayaking - designated area	10	2.0	2.8	2.4	2.6
-Power boating/Sailboating - improve existing marina/launch facilities	10	2.2	2.9	2.3	2.2
-Power boating/Sailboating - add new marina/launch facilities	8	1.9	2.8	2.5	2.3
2. Camping					
-Guest rentals	6	2.2	2.0	3.0	1.8
-Recreational Vehicle (RV) hookups	8	2.0	2.6	2.4	1.9
-Tent - sanitation facilities	8	2.4	2.0	2.7	2.0
3. Fishing					
-Freshwater - lake(s)	8	2.9	2.1	2.1	3.0
-Marine fishery - improved shore access (dikes, jettys, etc.)	7	2.3	1.7	2.9	3.0
-Marine fishery - ecological refuge (low disturbance, no vehicles, etc.)	7	2.1	1.9	2.3	2.7
4. Off-Road Vehicle Use area(s)	4	3.3	2.8	2.5	2.5
5. Resort activities					
-Resort/Gaming facilities	5	2.0	2.4	2.4	1.8
-Resort/Golf course(s)	5	2.4	2.8	2.8	2.8
6. Trail-related					
-Biking trails	6	2.2	2.3	2.7	2.8
-Hiking trails	8	2.4	2.0	2.1	3.0
-Horseback riding trails	6	2.7	2.5	2.8	2.8
7. Wildlife-related					
-Birdwatching/Photography - designated areas/observation facilities	8	2.3	2.1	1.9	2.4
-Hunting - designated areas	7	2.6	2.7	1.6	2.9
8. Water contact					
-Personal watercraft - designated area	6	2.3	2.5	2.5	2.8
-Swimming/sunbathing - designated area	6	2.8	2.5	2.8	2.5
-Windsurfing - designated area	6	2.3	2.2	2.5	2.8
9. Other					
-Skydiving area	4	2.8	3.3	3.0	2.8
Write-Ins					
Outdoor Gathering Space/Ampatheater					
Peg Leg's Mine Tours					

Note: Lower numbers indicate higher priority.
Color coding for each activity is as follows:
= Highest priority zone.
= Lowest priority zone.

Values were determined by taking the average for the responses per zone ranked 1 to 4, with 1 being the most prefereable zone location for the activity and 4 being the least preferable zone to locate the activity.

Appendix C
CAPACITY ASSESSMENT AND COMPARATIVE LAKE ANALYSIS

To be supplied.

	Salton Sea				Lakes			
					Arrowhead [1]		Havasu [2]	
FEATURES	Existing Capacity		Reasonable Capacity		Existing Facilities	Ratio	Existing Facilities	Ratio
Area (acres)	243,000				780	300:1	20,500	12:1
Shoreline length (miles)	90				14	6:1	425	1:5
Annual Population Served	200,000		2.4 - 60 million		60,000		1,000,000	
RECREATION OPPORTUNITIES								
Boating	**Existing Facilities**	**Existing Capacity (launches/year)**	**Projected Facilities**	**Projected Capacity (launches/year)**	**Existing Facilities**		**Existing Facilities**	
Use	Power/sail			Power/sail	Power/sail		Power/sail	
# of Boat owners				600,000 - 800,000	2,000 – 2,700			
Ramps/Marinas	8	200,000	8 restored/ 12 new	2.4 - 60 million	2		12	
Kayak	8		8 restored/ 19 new	100,000	2		12	
Camping/Rentals	**Existing Facilities**	**Existing Capacity (sites)**	**Projected Facilities**	**Projected Capacity (sites)**	**Existing Facilities**		**Existing Facilities**	
RV Camping	13	3,000 - 4,000	Up to 20 new	0 - 22,800	N/A- private lake		1,900 sites	
Tent Camping	13	2,000	Up to 10 new	0 - 9,600	N/A- private lake		800 sites	
Houseboat Rentals	No facilities	N/A	2 new	0 -144	N/A- private lake		12 rentals	
Fishing	**Existing Facilities**	**Existing Capacity (anglers/year)**	**Projected Facilities**	**Projected Capacity (anglers/year)**	**Existing Facilities**		**Existing Facilities**	
Status	Declining				Stable		Stable- big draw	
Freshwater Capacity	No designated facilities	Limited by available habitat	Up to 5 new	Dependent on demand - limited by habitat	Limited access – private lake		10,000-15,000 anglers/year	
Marine Capacity	No designated facilities	60,000	5 - 10 new	120,000 - 180,000	N/A- freshwater lake		N/A- freshwater lake	
OHV Use	**Existing Facilities**	**Existing Capacity (visitors/year)**	**Projected Facilities**	**Projected Capacity (visitors/year)**	**Existing Facilities**		**Existing Facilities**	
OHV Areas	No designated facilities	N/A	Up to 8 new areas	Dependent on demand	No facilities		Designated areas, limited	
Resort-related	**Existing Facilities**	**Existing Capacity (visitors/year)**	**Projected Facilities**	**Projected Capacity (visitors/year)**	**Existing Facilities**		**Existing Facilities**	
Gaming	No facilities	N/A	Up to 12 new	1.2 million	None		1	
Golf	No facilities	N/A	60 - 300 new	3.6 - 18 million	1		5	

FEATURES	Salton Sea				Lakes	
					Arrowhead [1]	Havasu [2]
	Existing Capacity		Reasonable Capacity		Existing Facilities	Existing Facilities
Trails-related	**Existing Facilities**	**Existing Capacity (visitors/year)**	**Projected Facilities**	**Projected Capacity (visitors/year)**	**Existing Facilities**	**Existing Facilities**
Biking	No designated facilities	Unregulated use	0 - 96 new	400,000	No designated facilities	8 available trails
Hiking	No designated facilities	Unregulated use	0 - 96 new	400,000	1 semi-private trail	8 available trails
Horseback riding	No designated facilities	Unregulated use	0 - 96 new	400,000	No designated facilities	8 available trails
Wildlife-related	**Existing Facilities**	**Existing Capacity (per year)**	**Projected Facilities**	**Projected Capacity (per year)**	**Existing Facilities**	**Existing Facilities**
Bird watching/Photography (visitors)	Facilities at NWR	6,000	8 new	60,000 - 120,000	yes	5,000-10,000 visitors/year
Hunting (use days, limited by CA Dept. of Fish and Game regulations)	Access through local clubs and NWR	10,000	4 new	120,000	None – activity not allowed	Available; unknown # visitors/year
Water Contact	**Existing Facilities**	**Existing Capacity (per year)**	**Projected Facilities**	**Projected Capacity (per year)**	**Existing Facilities**	**Existing Facilities**
PWC (launches)	8 ramps/ marinas	100,000	8 restored/ 12 new	1.5 million - 2.52 million	None – activity not allowed	125,000 - 210,000 launches/year
Swimming/Sunbathing (visitors)	6 beaches	Open areas, unregulated use	6 restored/ 14 new	0 - 50,000	designated areas, unregulated use	Open areas, unregulated use
Windsurfing (launches)	6 ramps/ marinas	100,000	6 restored/ 4 new	1.5 million - 2.52 million	None- activity not allowed	125,000 - 210,000 launches/year
Other	**Existing Facilities**	**Existing Capacity (visitors/year)**	**Projected Facilities**	**Projected Capacity (visitors/year)**	**Existing Facilities**	**Existing Facilities**
General Photography	Opportunities are available in and around Sea; unregulated activity.				Open areas, unregulated use	Open areas, unregulated use
Skydiving	No designated facilities.	N/A	Dependent on demand	N/A	None- activity not allowed	No designated areas
Cultural Tourism	No designated facilities	N/A	6 - 12 major/ 12 - 24 minor	0 - 50,000	Tour boat	Visitor's center

N/A = Not applicable

* Lake Comparison Analysis: Purpose of this analysis is to extrapolate the capacity of the proposed activities/facilities, based upon known capacities of lakes with similar function. A capacity range was developed for Salton Sea based upon comparisons with Arrowhead Lake (CA) and Lake Havasu (CA/AZ).

Sources : [1] Personal Communication: Andre. Arrowhead Lake Association. Arrowhead Lake, CA. 02 Aug 2005.

[2] Personal Communication: Cassens, Charlie. Lake Havasu City. Lake Havasu, CA. 03 Aug 2005.

Appendix D
EXCERPTS FROM WATER QUALITY CONTROL PLAN: COLORADO RIVER BASIN- REGION 7

Excerpts from the Water Quality Control Plan for the Colorado River Basin- Region 7 are provided on the following pages. These excerpts illustrate the beneficial uses that have been identified for the waters of the Salton Sea.

WATER QUALITY CONTROL PLAN

COLORADO RIVER BASIN- REGION 7

Includes Amendments Adopted by the Regional Board through September 2003

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
STATE WATER RESOURCES CONTROL BOARD

CHAPTER 2 - BENEFICIAL USES

Division 7 of the California Water Code (also known as the Porter-Cologne Water Quality Control Act) requires the Regional Board to consider past as well as present and probable future beneficial uses when establishing water quality objectives. Section 13050 (f) of said Division 7 describes "beneficial uses" as follows:

> "Beneficial uses of the waters of the State that may be protected against quality degradation include, but are not necessarily limited to, domestic, municipal, agricultural, and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves."

Beneficial water uses are of two types - consumptive and nonconsumptive. Consumptive uses are those normally associated with people's activities, primarily municipal, industrial and irrigation uses that consume water and cause corresponding reduction and/or depletion of water supply. Nonconsumptive uses include swimming, boating, waterskiing, fishing, hydropower generation, and other uses that do not significantly deplete water supplies. Maintenance of fish and wildlife may be either a consumptive or a nonconsumptive use. Because each use may be best served by a specific set of water quality conditions, beneficial uses are a controlling factor in establishing water quality objectives for a particular body of water.

I. PAST OR HISTORICAL BENEFICIAL USES

Historical beneficial uses of water within the Colorado River Basin Region have largely been associated with irrigated agriculture and mining. With the discovery of gold in the East Colorado River Basin about 1860, mining activities began at Picacho, California. Crops were also grown along the Colorado River to graze livestock.

In 1877, the first request was filed for use of the Colorado River water in Palo Verde Valley, California, for agricultural, mining, manufacturing, domestic, and commercial purposes.

In 1901, water was first delivered to Imperial Valley through the Canal del Alamo and was used to irrigate land. With the completion of Hoover Dam in 1935 and the All-American Canal in 1940, most of the land in the Imperial Valley was developed for agriculture. In 1949, the Coachella branch of the All-American Canal was completed which delivers water for irrigation and other beneficial uses in Coachella Valley. Today approximately 500,000 acres in Imperial Valley and about 70,000 acres in Coachella Valley are under cultivation.

Executive Order of Withdrawal (Public Water Reserve No. 114, California No. 26), signed by the President of the United States on February 26, 1928, withdrew from all forms of entry all public lands of the United States in the Salton Sea area lying below the elevation of 220 feet below sea level for the purpose of creating a reservoir in Salton Sea for storage of wastes and seepage water from irrigated land in the Imperial Valley.

By the 1920's, large acreages of land in Palo Verde Valley were being irrigated with Colorado River water. A few years later, canals were constructed to irrigate land within the Bard Valley. At present, about 92,000 acres in Palo Verde Valley and about 14,000 acres in Bard Valley are under cultivation.

Availability of good quality ground water has been very important in the development of many areas including Coachella Valley, Borrego Springs, Morongo Valley, Twentynine Palms, Joshua Tree, Yucca Valley, Lucerne Valley, and Desert Center.

Industrial use of water has become increasingly important in the Region, particularly in the agricultural areas. Recreational use (both contact and non-contact uses) of the Colorado River and Salton Sea is a very important use of these waters; and this use supports millions of dollars worth of recreational oriented businesses.

The surface waters in the Region provide habitat for the support of a variety of fish and wildlife.

Definitions and abbreviations of beneficial use categories are listed in Table 2-1.

II. PRESENT BENEFICIAL USES

From a quantity standpoint, agricultural use is the predominant beneficial use of water in the Colorado River Basin Region, with the major irrigated acreage being located in the Coachella, Imperial and Palo Verde Valleys. The use of water for municipal and industrial purposes, which is second in quantity of usage, is also located largely in these valleys and in the Joshua Tree and Dale Hydrologic Units of the Lucerne Valley Planning Area. The third major category of beneficial use, recreational use of surface waters, represents another important segment of the Region's economy.

The beneficial uses found in many areas/hydrologic units today are the result of not only naturally occurring resources but also of improved technology and the importation of water into the Region. The importation of Colorado River water, via the Canal del Alamo, which began shortly after the turn of the century, and subsequently via the All-American Canal, has resulted in numerous supply canals, drainage channels, and water bodies where previously surface waters were non-existent, intermittent, or limited in nature. The development of deep well drilling and pumping technology allowed development in areas of the Region where water supplies were previously not available. Since the mid-1970's, a portion of the Colorado River water which is imported via the California Aqueduct by the Metropolitan Water District of Southern California is used for ground water recharge in the upper portions of Coachella Valley.

The primary purpose of the Salton Sea and the agricultural drains in the Imperial, Palo Verde, Coachella, and Bard Valleys is for collection, transport, and/or storage of drainage (including subsurface) waters from irrigated cropland in order to maintain adequate soil salinity balance for agriculture in the Region. Although this is clearly the primary purpose of these waters, this cannot be recognized as a beneficial use in Tables 2-2 and 2-3 since federal regulations specify that waste transport or assimilation cannot be designated as a beneficial use for any waters of the United States (as per Clean Water Act, 40 CFR Section 131.10 (a)).

Most of the data contained in Tables 2-2, 2-3, and 2-4 uses is based on information compiled in the following reports:

- Surface Water Survey, March 1984 (revised September 1988);
- Survey of Springs, 1984; and
- Survey of Springs, 1986.

In Tables 2-2, 2-3, and 2-4 present beneficial uses are designated by X, potential beneficial uses are designated by P, and intermittent uses by I. Intermittent uses include those uses which occur only seasonally because of limiting environmental conditions (e.g. provide habitat for trout during colder months of the year), and uses which are dependent on and occur only when sufficient flow exists.

Identification of beneficial uses of surface waters is based strictly on documentation of the existence of those uses and should not in any way be construed to indicate Regional Board authorization or approval of the uses. In some instances water quality may not be adequate to support beneficial uses indicated, or beneficial uses may be occurring illegally[1] or without authorization (for example: fishing in Coachella Valley drains[2]).

The beneficial uses for ground water which are contained in Table 2-5 are for each hydrologic unit as an entirety, unless otherwise specified. Some hydrologic units contain multiple aquifers which may each support different beneficial uses.

III. POTENTIAL BENEFICIAL USES

Beneficial uses of surface water and ground water in the Region are expected to change little, if at all, between now and the year 2000. Tables 2-2, 2-3 and 2-4 are also valid for potential beneficial uses. However, the relative amount of water resource used for each category of beneficial use may change during the above period.

The existing quality of water in the New and Alamo Rivers limits the present beneficial uses of these waters. Existing beneficial uses for these Rivers are indicated in Table 2-3. When Mexico corrects its present discharges of raw and inadequately treated sewage and other wastes into the New River, beneficial uses of New River water are expected to increase, particularly fish and wildlife, and non-contact water recreational use. The Rivers also have potential

TABLE 2-1: DEFINITIONS OF THE BENEFICIAL USES OF WATER

CATEGORY		DEFINITION
MUN	Municipal and Domestic Supply	Uses of water for community, military, or individual water supply systems including, but not limited to, drinking water supply.
AGR	Agriculture Supply	Uses of water for farming, horticulture, or ranching including, but not limited to, irrigation, stock watering, or support of vegetation for range grazing.
AQUA	Aquaculture	Uses of water for aquaculture or mariculture operations including, but not limited to, propagation, cultivation, maintenance, or harvesting of aquatic plants and animals for human consumption or bait purposes.
IND	Industrial Service Supply	Uses of water for industrial activities that do not depend primarily on water quality including, but not limited to, mining, cooling water supply, hydraulic conveyance, gravel washing, fire protection, and oil well repressurization.
GWR	Ground Water Recharge	Uses of water for natural or artificial recharge of ground water for purposes of future extraction, maintenance of water quality, or halting salt water intrusion into fresh water aquifers.
REC I	Water Contact Recreation	Uses of water for recreational activities involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, white water activities, fishing, and use of natural hot springs.
REC II	Non-Contact Water Recreation	Uses of water for recreational activities involving proximity to water, but not normally involving contact with water where ingestion of water is reasonably possible. These uses include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, tidepool and marine life study, hunting, sightseeing, or aesthetic enjoyment in conjunction with the above activities.
WARM	Warm Freshwater Habitat	Uses of water that support warm water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.

TABLE 2-1 (CONT.)

DEFINITIONS OF THE BENEFICIAL USES OF WATER

CATEGORY		DEFINITION
COLD	Cold Freshwater Habitats	Uses of water that support cold water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.
WILD	Wildlife Habitat	Uses of water that support terrestrial ecosystems including, but not limited to, the preservation and enhancement of terrestrial habitats, vegetation, wildlife (e.g., mammals, birds, reptiles, amphibians, invertebrates), or wildlife water and food sources.
POW	Hydropower Generation	Uses of water for hydropower generation.
FRSH	Freshwater Replenishment	Uses of water for natural or artificial maintenance of surface water quantity or quality.
RARE	Preservation of Rare, Threatened, or Endangered Species	Uses of water that support habitats necessary, at least in part, for the survival and successful maintenance of plant or animal species established under state or federal law as rare, threatened or endangered.

TABLE 2-3: BENEFICIAL USES OF SURFACE WATERS IN THE WEST COLORADO RIVER BASIN
(Listing of the beneficial uses is indicated by X for existing uses,
P for potential uses, and I for intermittent uses)

	MUN	AGR	AQUA	FRSH	IND	GWR	RECI	RECII	WARM	COLD	WILD	POW	RARE
Canals/Aqueducts													
All American Canal System	X	X	X	X[1]	X	X	X[2]	X[2]	X		X	X	X[13]
Coachella Canal	P	X				X	X[2]	X[2]	X		X		X[13]
MWD Aqueduct and Associated reservoirs	X					X	P[3]		X		X	P	
Drains													
Alamo River				X			X[16]	X	X		X	P	X[13]
Coachella Valley Drains				X			X[2]	X[2]	X		X		X[13]
Coachella Valley Storm Water Channel[4]				X			X[2]	X[2]	X		X		X[13]
Imperial Valley Drains				X			X[2, 16]	X[2]	X		X		X[13]
New River				X	P		X[5]	X	X		X		X[13]
Lakes													
Finney Lake							X[15]	X	X		X		X
Lake Cahuilla	P	X					X	X	X	I	X		
Ramer Lake							X	X	X		X		X
Salton Sea			X		P		X	X	X		X		X
Sunbeam Lake	P	X					X	X	X	I[6]	X		
Wiest Lake	P						X	X	X	I[6]	X		
Wister Unit							X[15]	X	X		X		X
Streams													
Andreas Creek	P	X				X	X	X	X		X		
Arrastre Creek	X				X	X	X	X	X		X		
Azalea Creek	P	X				X	X	X	X		X		
Banner Creek	P	X			X	X	X	X	X		X		
Big Morongo Creek	P	X				X	X[8]	X	X		X		

TABLE 2-3 (Cont.)
BENEFICIAL USES OF SURFACE WATERS IN THE WEST COLORADO RIVER BASIN

	MUN	AGR	AQUA	FRSH	IND	GWR	RECI	RECII	WARM	COLD	WILD	POW	RARE
Streams (Cont.)													
Borrego Palm Canyon Creek	P					X	X	X	X		X		X
Boundary Creek	P	X				X	X	X	X		X		
Brown Creek	P	I				I	I	I	I		I		
Carrizo Creek		X				X	X	X	X		X		X
Chino Canyon Creek	X					X	P	X	X		X		
Coyote Creek	P					X	X	X	X		X		X
Crystal Creek	X	X				X	X	X	X		X		
Dutch Creek	P	I				I	I	I	I		I		
Falls Creek	X					X	P	X[9]		X	X		
Grapevine Canyon Creek	P					X	X	X	X		X		
Hathaway Creek	P	X				X	P	X	X		X		
Little Morongo Creek	P	X				X	X	X	X		X		
Millard Canyon Creek	X	X				X	X	X	X		X		
Mission Creek	P	X				X	X	X	X		X		
Palm Canyon Creek	P	X				X	X	X	X		X		
Pipes Canyon Creek	P					I	I	I	I		I		
Potrero Creek	P	X				X	X	X	X		X		
Salt Creek				X		X	X	X	X		X		X
San Felipe Creek		X		X		X	X	X	X		X		X
San Gorgonio River	P	X				X	X	X		X	X		
Snow Creek	X					X	X	X[9]		X	X		
Tahquitz Creek	P					X	X	X		X	X		
Thousand Palms Canyon Creek	P	X				X	X[2]	X	X		X		
Tubb Canyon Creek	X					X	P	X	X		X		X
Tule Creek	P	X				X	X	X	X		X		

TABLE 2-3 (Cont.)

BENEFICIAL USES OF SURFACE WATERS IN THE WEST COLORADO RIVER BASIN

	MUN	AGR	AQUA	FRSH	IND	GWR	RECI	RECII	WARM	COLD	WILD	POW	RARE
Streams (Cont.)													
Twin Pines Creek	X	X				X	X	X	X		X		
Vallecito Creek	P	I				I	I	I	I		I		
Walker Creek	P	X				X	X	X	X		X		
Whitewater River[10]	X	X				X	X	X	I	X	X	X	
Willow Creek	P					X	X	X		X	X		
Other													
Unlisted Perennial and Intermittent Streams	P[11]			I X[12]		I X	I P X	I X	I X		I X		I X[13]
Washes[14] (Ephemeral Streams)				I[12]		I		I	[7]		I		

Footnotes for Table 2-3

1. Some very limited spillage of canal water occurs providing freshwater replenishment to Salton Sea.

2. Unauthorized use.

3. The water quality is satisfactory to support REC I use, although such use is strictly prohibited and would be extremely dangerous.

4. Section of perennial flow from approximately Indio to the Salton Sea.

5. Although some fishing occurs in the downstream reaches, the presently contaminated water in the river makes it unfit for any recreational use. An advisory has been issued by the Imperial County Health Department warning against the consumption of any fish caught from the river and the river has been posted with advisories against any body contact with the water.

6. The lake was experimentally stocked with trout during the winter of 1987/88. The results from this stocking will be evaluated to see if future stocking will be recommended.

7. Use, if any, to be determined on a case-by-case basis.

8. Although it is not encouraged, children play in the water infrequently on the wildlife reserve.

9. Most of the creek is on National Forest Service land except one section which is owned by Desert Water Agency. This section provides the only reasonable access to the area. To enter Falls or Snow Creek through Desert Water Agency's land, a permit is required. The permit stipulates that persons entering through DWA's land must agree not to swim, fish, or wade in any portion of the creek.

10. Includes the section of flow from the headwaters in the San Gorgonio Mountains to (and including) the Whitewater Recharge Basins near Indian Avenue crossing in Palm Springs.

11. Potential use designations will be determined on a case-by-case basis as necessary in accordance with the "Sources of Drinking Water Policy" in this chapter.

12. Applies only to tributaries to Salton Sea.

13. Rare, endangered, or threatened wildlife exists in or utilizes some of these waterway(s). If the RARE beneficial use may be affected by a water quality control decision, responsibility for substantiation of the existence of rare, endangered, or threatened species on a case-by-case basis is upon the California Department of Fish and Game on its own initiative and/or at the request of the Regional Board; and such substantiation must be provided within a reasonable time frame as approved by the Regional Board.

14. Including the section of ephemeral flow in the Whitewater River Storm Water Channel and Coachella Valley Storm Water Channel from Indian Avenue to approximately 1/4 mile west of Monroe Street crossing.

15. The California Department of Fish and Game manages these lakes and does not permit swimming in them.

16. The only REC I usage that is known to occur is from infrequent fishing activity.

criteria for surface waters and that protect the waters of the region as follows:

1. Bacteria Water Quality Objectives
The bacterial standards identified in the General Surface Water Objectives section of this Basin Plan (p. 3-3) are applicable to the entire stretch of the New River in the United States.

The Pathogen Total Maximum Daily Load (TMDL) and associated implementation actions are described in Chapter 4, Section V(A). Compliance Monitoring activities for the TMDL are described in Chapter 6, Section II(B).

C. SALTON SEA

1. Total Dissolved Solids (Salinity)

The total dissolved solids concentration of Salton Sea in 1992 was approximately 44,000 mg/l.

The water quality objective for Salton Sea is to reduce the present level of salinity, and stabilize it at 35,000 mg/l unless it can be demonstrated that a different level of salinity is optimal for the sustenance of the Sea's wild and aquatic life (California Department of Fish and Game is attempting to make this determination). However, the achievement of this water quality objective shall be accomplished without adversely affecting the primary purpose of the Sea which is to receive and store agricultural drainage, seepage, and storm waters. Also, because of economic considerations, 35,000 mg/l may not be realistically achievable. In such case, any reduction in salinity which still allows for survival of the sea's aquatic life shall be deemed an acceptable alternative or interim objective. Because of the difficulty and predicted costliness of achieving salinity stabilization of Salton Sea, it is unreasonable for the Regional Board to assume responsibility for implementation of this objective. That responsibility must be shared jointly by all of the agencies which have direct influence on the Sea's fate. Additionally, there must be considerable public support for achieving this objective, without which it is unlikely that the necessary funding for Salton Sea salinity control will ever be realized.

2. Selenium

The beneficial use of the Salton Sea for recreation has been impaired due to elevated levels of selenium in tissues of resident wildlife and aquatic life (See page 4-10 for a more detailed discussion of this). The following objectives apply to all surface waters that are tributaries to the Salton Sea:

1. A four day average value of selenium shall not exceed .005 mg/L;

2. A one hour average value of selenium shall not exceed .02 mg/L.

These numerical limits are based on the United States Environmental Protection Agency's National Ambient Water Quality Criteria.

D. IRRIGATION SUPPLY CANALS

Herbicide spraying in irrigation canals must be conducted in coordination with the County Agricultural Commissioner, California Department of Fish and Game (DFG), and California Department of Health Services. In canals used for domestic supply, no herbicides shall be applied in concentrations which are toxic or otherwise harmful to humans; also no herbicides shall be applied in concentrations which are toxic or otherwise harmful to aquatic life, except that herbicides may be used in cases where the herbicide only impacts the targeted species, is a legally registered product, and is used in accordance with label requirements and in accordance with all applicable laws and regulations.

IV. GROUND WATER OBJECTIVES

Establishment of numerical objectives for ground water involves complex considerations since the quality of ground water varies significantly with depth of well perforations, existing water levels, geology, hydrology and several other factors. Unavailability of

Appendix E
DETAILED REVENUE PROJECTIONS FOR IMPERIAL COUNTY

The revenue projection calculations for Imperial County are provided on the following page.

Appendix E

SALTON SEA INFRASTRUCTURE FINANCE DISTRICT

PROJECTED INFRASTRUCTURE FINANCE DISTRICT REVENUES

IMPERIAL COUNTY

Year		Secured Assessed Values 2.00%	New Construction	Total Assessed Value	Incremental Value	Gross Tax Collections 0.5527%	Cumulative Tax Collections		Taxing Entities Payment 0%	Tax Revenue Net of Taxing Entities Payment
Year	2004-05	1,226,630,626		1,226,630,626						
	2005-06	1,251,163,239								
BY	2006-07	1,276,186,503		1,276,186,503	49,555,877	273,915	273,915		-	-
1	2007-08	1,301,710,233		1,301,710,233	75,079,607	414,994	688,909	1	-	414,994
2	2008-09	1,327,744,438		1,327,744,438	101,113,812	558,895	1,247,804	2	-	558,895
3	2009-10	1,354,299,327		1,354,299,327	127,668,701	705,675	1,953,479	3	-	705,675
4	2010-11	1,381,385,313		1,381,385,313	154,754,687	855,390	2,808,869	4	-	855,390
5	2011-12	1,409,013,020		1,409,013,020	182,382,394	1,008,099	3,816,967	5	-	1,008,099
6	2012-13	1,437,193,280		1,437,193,280	210,562,654	1,163,862	4,980,829	6	-	1,163,862
7	2013-14	1,465,937,146		1,465,937,146	239,306,520	1,322,740	6,303,570	7	-	1,322,740
8	2014-15	1,495,255,888		1,495,255,888	268,625,262	1,484,797	7,788,366	8	-	1,484,797
9	2015-16	1,525,161,006		1,525,161,006	298,530,380	1,650,094	9,438,460	9	-	1,650,094
10	2016-17	1,555,664,226		1,555,664,226	329,033,600	1,818,697	11,257,157	10	-	1,818,697
11	2017-18	1,586,777,511		1,586,777,511	360,146,885	1,990,672	13,247,829	11	-	1,990,672
12	2018-19	1,618,513,061		1,618,513,061	391,882,435	2,166,087	15,413,916	12	-	2,166,087
13	2019-20	1,878,848,832	227,965,510	1,878,848,832	652,218,206	3,605,064	19,018,981	13	-	3,605,064
14	2020-21	2,144,391,319	227,965,510	2,144,391,319	917,760,693	5,072,821	24,091,802	14	-	5,072,821
15	2021-22	2,643,210,166	455,931,020	2,643,210,166	1,416,579,540	7,829,988	31,921,790	15	-	7,829,988
16	2022-23	3,379,970,899	683,896,530	3,379,970,899	2,153,340,273	11,902,351	43,824,141	16	-	11,902,351
17	2023-24	4,131,466,847	683,896,530	4,131,466,847	2,904,836,221	16,056,163	59,880,304	17	-	16,056,163
18	2024-25	5,125,958,225	911,862,040	5,125,958,225	3,899,327,599	21,553,104	81,433,408	18	-	21,553,104
19	2025-26	6,140,339,430	911,862,040	6,140,339,430	4,913,708,804	27,159,985	108,593,393	19	-	27,159,985
20	2026-27	7,175,008,258	911,862,040	7,175,008,258	5,948,377,632	32,879,003	141,472,396	20	-	32,879,003
21	2027-28	8,230,370,464	911,862,040	8,230,370,464	7,003,739,838	38,712,402	180,184,798	21	-	38,712,402
22	2028-29	9,078,874,403	683,896,530	9,078,874,403	7,852,243,777	43,402,414	223,587,211	22	-	43,402,414
23	2029-30	9,944,348,422	683,896,530	9,944,348,422	8,717,717,796	48,186,226	271,773,438	23	-	48,186,226
24	2030-31	10,599,166,410	455,931,020	10,599,166,410	9,372,535,784	51,805,661	323,579,098	24	-	51,805,661
25	2031-32	11,267,080,759	455,931,020	11,267,080,759	10,040,450,133	55,497,484	379,076,582	25	-	55,497,484
26	2032-33	11,948,353,394	455,931,020	11,948,353,394	10,721,722,768	59,263,143	438,339,725	26	-	59,263,143
27	2033-34	12,415,285,972	227,965,510	12,415,285,972	11,188,655,346	61,844,062	500,183,787	27	-	61,844,062
28	2034-35	12,891,557,202	227,965,510	12,891,557,202	11,664,926,576	64,476,599	564,660,385	28	-	64,476,599
29	2035-36	13,377,353,856	227,965,510	13,377,353,856	12,150,723,230	67,161,786	631,822,171	29	-	67,161,786
30	2036-37	13,872,866,443	227,965,510	13,872,866,443	12,646,235,817	69,900,677	701,722,849	30	-	69,900,677
31	2037-38	14,378,289,282	227,965,510	14,378,289,282	13,151,658,656	72,694,347	774,417,195	31	-	72,694,347
32	2038-39	14,893,820,578	227,965,510	14,893,820,578	13,667,189,952	75,543,889	849,961,084	32	-	75,543,889
33	2039-40	15,305,679,744	113,982,755	15,305,679,744	14,079,049,118	77,820,395	927,781,480	33	-	77,820,395
34	2040-41	15,725,776,094	113,982,755	15,725,776,094	14,499,145,468	80,142,432	1,007,923,911	34	-	80,142,432
35	2041-42	16,154,274,371	113,982,755	16,154,274,371	14,927,643,745	82,510,909	1,090,434,820	35	-	82,510,909
36	2042-43	16,591,342,613	113,982,755	16,591,342,613	15,364,711,987	84,926,755	1,175,361,575	36	-	84,926,755
37	2043-44	17,037,152,221	113,982,755	17,037,152,221	15,810,521,595	87,390,919	1,262,752,494	37	-	87,390,919
38	2044-45	17,491,878,020	113,982,755	17,491,878,020	16,265,247,394	89,904,366	1,352,656,860	38	-	89,904,366
39	2045-46	17,955,698,336	113,982,755	17,955,698,336	16,729,067,710	92,468,082	1,445,124,942	39	-	92,468,082
40	2046-47	18,428,795,057	113,982,755	18,428,795,057	17,202,164,431	95,083,072	1,540,208,013	40	-	95,083,072
41	2047-48	18,911,353,714	113,982,755	18,911,353,714	17,684,723,088	97,750,362	1,637,958,375	41	-	97,750,362
42	2048-49	19,403,563,543	113,982,755	19,403,563,543	18,176,932,917	100,470,997	1,738,429,372	42	-	100,470,997
43	2049-50	19,791,634,814		19,791,634,814	18,565,004,188	102,616,018	1,841,045,391	43	-	102,616,018
44	2050-51	20,187,467,510		20,187,467,510	18,960,836,884	104,803,940	1,945,849,331	44	-	104,803,940
45	2051-52	20,591,216,860		20,591,216,860	19,364,586,234	107,035,620	2,052,884,951	45	-	107,035,620
	Total				$371,352,670,338	$2,052,611,036			-	2,052,611,036
	NPV = [1]									$326,923,724

[1] Net present value of total net tax increment over 45-year period at 6.0% discount rate.

Appendix F
DETAILED REVENUE PROJECTIONS FOR RIVERSIDE COUNTY

The revenue projection calculations for Riverside County are provided on the following page.

Appendix D

SALTON SEA INFRASTRUCTURE FINANCE DISTRICT

PROJECTED INFRASTRUCTURE FINANCE DISTRICT REVENUES

RIVERSIDE COUNTY

Year		Secured Assessed Values 2.00%	New Construction	Total Assessed Value	Incremental Value	Gross Tax Collections 0.4568%	Cumulative Tax Collections		Taxing Entities Payment 0%	Tax Revenue Net of Taxing Entities Payment
Year	2004-05	410,259,906		410,259,906						
	2005-06	418,465,104								
BY	2006-07	426,834,406		426,834,406	16,574,500	75,716	75,716		-	-
1	2007-08	435,371,094		435,371,094	25,111,188	114,714	190,430	1	-	114,714
2	2008-09	444,078,516		444,078,516	33,818,610	154,491	344,921	2	-	154,491
3	2009-10	452,960,087		452,960,087	42,700,181	195,064	539,985	3	-	195,064
4	2010-11	462,019,288		462,019,288	51,759,382	236,449	776,434	4	-	236,449
5	2011-12	471,259,674		471,259,674	60,999,768	278,661	1,055,095	5	-	278,661
6	2012-13	480,684,868		480,684,868	70,424,962	321,717	1,376,812	6	-	321,717
7	2013-14	490,298,565		490,298,565	80,038,659	365,635	1,742,447	7	-	365,635
8	2014-15	500,104,536		500,104,536	89,844,630	410,431	2,152,878	8	-	410,431
9	2015-16	510,106,627		510,106,627	99,846,721	456,123	2,609,001	9	-	456,123
10	2016-17	520,308,759		520,308,759	110,048,853	502,728	3,111,730	10	-	502,728
11	2017-18	530,714,935		530,714,935	120,455,029	550,266	3,661,996	11	-	550,266
12	2018-19	541,329,233		541,329,233	131,069,327	598,755	4,260,751	12	-	598,755
13	2019-20	823,663,135	271,507,317	823,663,135	413,403,229	1,888,521	6,149,272	13	-	1,888,521
14	2020-21	1,345,427,598	505,291,201	1,345,427,598	935,167,692	4,272,061	10,421,333	14	-	4,272,061
15	2021-22	1,915,350,784	543,014,634	1,915,350,784	1,505,090,878	6,875,601	17,296,934	15	-	6,875,601
16	2022-23	2,768,179,751	814,521,951	2,768,179,751	2,357,919,845	10,771,520	28,068,454	16	-	10,771,520
17	2023-24	3,638,065,296	814,521,951	3,638,065,296	3,227,805,390	14,745,357	42,813,812	17	-	14,745,357
18	2024-25	4,796,855,870	1,086,029,268	4,796,855,870	4,386,595,964	20,038,979	62,852,791	18	-	20,038,979
19	2025-26	5,978,822,255	1,086,029,268	5,978,822,255	5,568,562,349	25,438,474	88,291,265	19	-	25,438,474
20	2026-27	7,184,427,967	1,086,029,268	7,184,427,967	6,774,168,061	30,945,958	119,237,222	20	-	30,945,958
21	2027-28	8,414,145,794	1,086,029,268	8,414,145,794	8,003,885,888	36,563,592	155,800,814	21	-	36,563,592
22	2028-29	9,396,950,661	814,521,951	9,396,950,661	8,986,690,755	41,053,270	196,854,084	22	-	41,053,270
23	2029-30	10,399,411,625	814,521,951	10,399,411,625	9,989,151,719	45,632,743	242,486,827	23	-	45,632,743
24	2030-31	11,150,414,491	543,014,634	11,150,414,491	10,740,154,585	49,063,496	291,550,323	24	-	49,063,496
25	2031-32	11,916,437,415	543,014,634	11,916,437,415	11,506,177,509	52,562,865	344,113,189	25	-	52,562,865
26	2032-33	12,697,780,797	543,014,634	12,697,780,797	12,287,520,891	56,132,222	400,245,410	26	-	56,132,222
27	2033-34	13,223,243,730	271,507,317	13,223,243,730	12,812,983,824	58,532,657	458,778,067	27	-	58,532,657
28	2034-35	13,759,215,921	271,507,317	13,759,215,921	13,348,956,015	60,981,101	519,759,169	28	-	60,981,101
29	2035-36	14,305,907,556	271,507,317	14,305,907,556	13,895,647,650	63,478,514	583,237,683	29	-	63,478,514
30	2036-37	14,863,533,025	271,507,317	14,863,533,025	14,453,273,119	66,025,876	649,263,559	30	-	66,025,876
31	2037-38	15,432,311,002	271,507,317	15,432,311,002	15,022,051,096	68,624,184	717,887,743	31	-	68,624,184
32	2038-39	16,012,464,539	271,507,317	16,012,464,539	15,602,204,633	71,274,459	789,162,203	32	-	71,274,459
33	2039-40	16,468,467,488	135,753,658	16,468,467,488	16,058,207,582	73,357,586	862,519,788	33	-	73,357,586
34	2040-41	16,933,590,496	135,753,658	16,933,590,496	16,523,330,590	75,482,375	938,002,163	34	-	75,482,375
35	2041-42	17,408,015,965	135,753,658	17,408,015,965	16,997,756,059	77,649,659	1,015,651,822	35	-	77,649,659
36	2042-43	17,891,929,942	135,753,658	17,891,929,942	17,481,670,036	79,860,290	1,095,512,111	36	-	79,860,290
37	2043-44	18,385,522,200	135,753,658	18,385,522,200	17,975,262,294	82,115,132	1,177,627,244	37	-	82,115,132
38	2044-45	18,888,986,302	135,753,658	18,888,986,302	18,478,726,396	84,415,072	1,262,042,316	38	-	84,415,072
39	2045-46	19,402,519,687	135,753,658	19,402,519,687	18,992,259,781	86,761,011	1,348,803,327	39	-	86,761,011
40	2046-47	19,926,323,739	135,753,658	19,926,323,739	19,516,063,833	89,153,868	1,437,957,195	40	-	89,153,868
41	2047-48	20,460,603,872	135,753,658	20,460,603,872	20,050,343,966	91,594,583	1,529,551,778	41	-	91,594,583
42	2048-49	21,005,569,608	135,753,658	21,005,569,608	20,595,309,702	94,084,112	1,623,635,890	42	-	94,084,112
43	2049-50	21,425,681,000		21,425,681,000	21,015,421,094	96,003,277	1,719,639,167	43	-	96,003,277
44	2050-51	21,854,194,620		21,854,194,620	21,443,934,714	97,960,826	1,817,599,993	44	-	97,960,826
45	2051-52	22,291,278,512		22,291,278,512	21,881,018,606	99,957,526	1,917,557,518	45	-	99,957,526
	Total				$419,742,833,055	$1,917,481,802			-	1,917,481,802
	NPV = [1]									$300,062,097

[1] Net present value of total net tax increment over 45-year period at 6.0% discount rate.